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APC-3918P
Panel PC User Manual

Release Date	Revision
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Warning!

This equipment generates, uses and can radiate radio frequency energy and if not installed and used in accordance with the instructions manual, it may cause interference to radio communications. It has been tested and found to comply with the limits for a Class A computing device pursuant to FCC Rules, which are designed to provide reasonable protection against such interference when operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference in which case the user at his own expense will be required to take whatever measures may be required to correct the interference.

Electric Shock Hazard – Do not operate the machine with its back cover removed. There are dangerous high voltages inside.

Disclaimer

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Packing List

Accessories (as ticked) included in this package are:
☐ AC power cable ☐ Driver & manual CD disc ☐ Other._____(please specify)

Safety Precautions

Follow the messages below to prevent your systems from damage:

- Avoid your system from static electricity on all occasions.
- Prevent electric shock. Don‘t touch any components of this card when the card is power-on. Always disconnect power when the system is not in use.
- Disconnect power when you change any hardware devices. For instance, when you connect a jumper or install any cards, a surge of power may damage the electronic components or the whole system.

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Chapter 1 System

1.1 Specifications

Specs	APC-3918P
Processor	Intel Socket P Core 2 Duo Processor FSB 667/800/1066 MHz, up to Intel T9400 2.53GHz
System Chipset	Intel GM45 + ICH9M-E
System Memory	2 x 204 Pin DDR3 SO-DIMM, up to 8 GB SDRAM
Outside I/O port	4 x USB 2.0 connectors 2 x GbE LAN connectors 1 x VGA 2 x RS-232 (COM1/2) 1 x terminal block for additional power switch 2 x LED light for power and HDD indication 1 x Audio line out/ MIC in 1 x DB-9 RS-422/485, default RS-485 (COM3) for option 1 x 8 Pin terminal block connector for VCC/Ground/6XGPIO 1 x USB 2.0 connector with cap at front panel 1 x 3 Pin DC Power input terminal block
Storage	2 x 2.5” SATA HDD (one HDD as standard, two HDDs as option for RAID) 1 x External CF Slot for option
Extension	1 x PCI for option
OSD Control	Brightness/ Screen and Touch on/off /Power on/off
CD/DVD-R Device	1 x Slim CD/DVD RW Device for option (Not available if 2 HDD and CF have been used)
Wireless LAN	mini-PCIe interface for option
Web CAM	Web CAM USB Device for option
Auto Brightness	Auto Dimming for option
Speaker	2 x 2W Speaker for option
OS Support	Windows XP Professional, XP Embedded, Windows Embedded Standard 7, Windows 7 Pro for Embedded
Display Size	19” 1280x1024
Maximum Colors	16.2M
Viewing Angle (Degree)	H:170 / V:160
Luminance (cd/m²)	350
Backlight Lifetime	50,000 Hours

Touch Screen Type	Resistive Touch Screen (option)
Light Transmission	80%
Power Supply	9~32V DC
Construction	Aluminum front bezel and steel chassis
IP Rating	Front Panel IP65
Mounting	Panel / VESA 100x100 Mount
Dimensions (WxHxD)	484x400x83
Net Weight	11.8kgs
Operating Temperature	-10~50℃
Storage Temperature	-20~60℃
Relative Humidity	10%~90%@ 40℃, non-condensing
Certificate	CE / FCC Class A

1.2 Dimensions

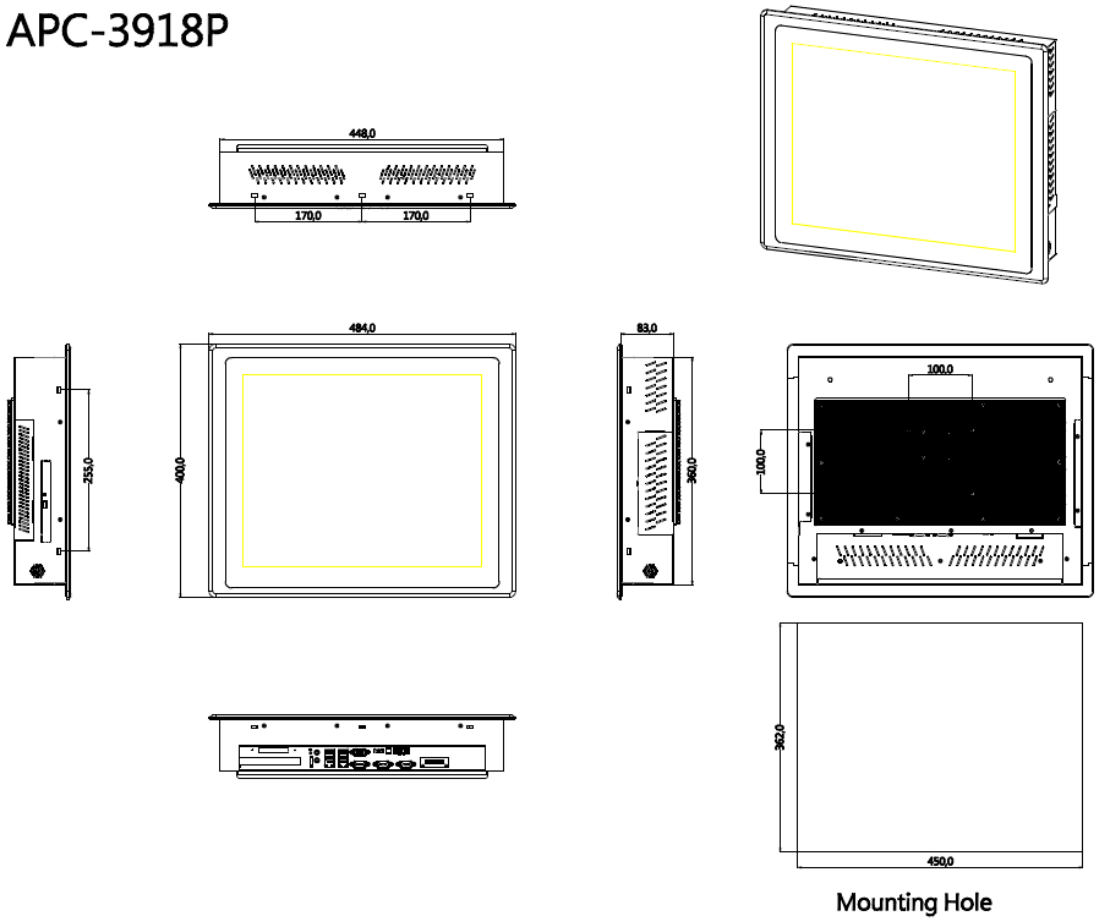


Figure 1.1: Dimensions of APC-3918P

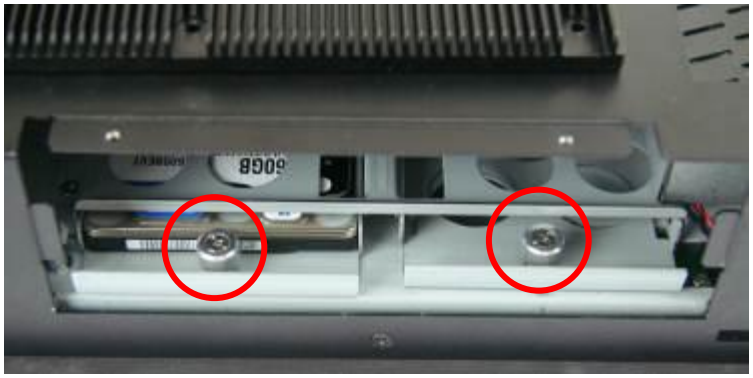
1.3 Installation of HDD

Step 1

There are 2 screws to deal with when enclosing or removing the HDD bracket.

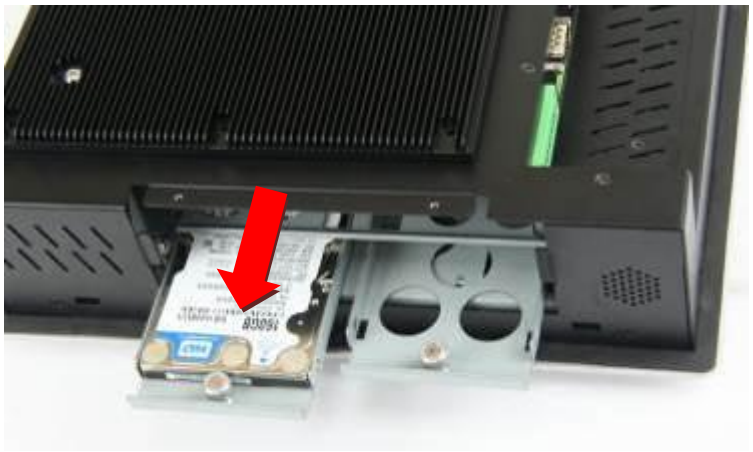
Step 2

There is 1 screw to deal with when enclosing or removing the HDD Tray.



Step 3

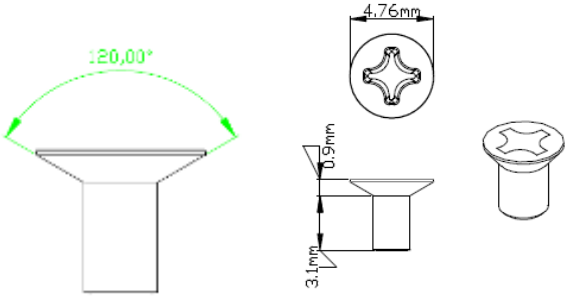
Gently remove the screw and draw the HDD bracket out as shown in the picture.

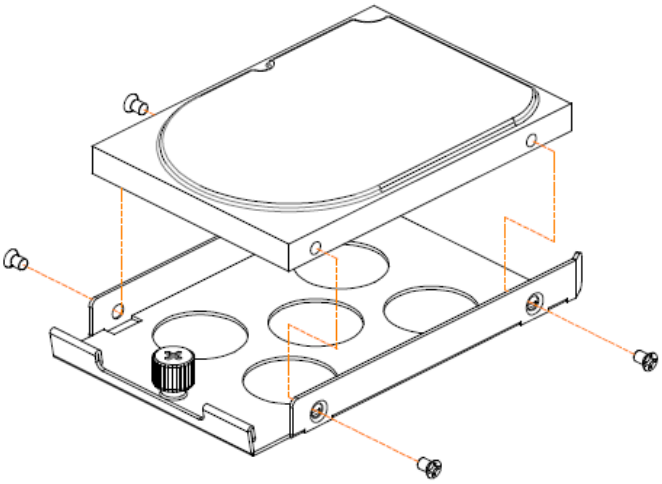


Step 4

Tighten four screws as shown in the picture.

F Screw M3*5L 120°





Step 5

Push into the HDD bracket as shown in the picture

Step 5

That's how it should look after it has been installed.

1.4 Installation of PCI Add-on

Step 1 There are 2 screws to deal with when enclosing or removing the chassis.	
Step 2 Now slide the add on into the PCI slot, making sure the golden part faces the slot. When the part that is interfaced together come into the right contact, slightly push the add on into the rail of the slot. After sliding the add on into the PCI expansion slot, get the one screw as circled tightened to finish the connection.	
Step 3 To finish the job, just fasten the 2 screws as shown in the picture.	

1.5 Brief Description of APC-3918P

APC-3918P is Intel Socket P Core 2 Duo Intel GM45+ ICH9M-E Steel Panel PC, which comes with a 19-inch (luminance of 350 cd/m²) TFT LCD. It is powered by an Intel Socket P Core 2 Duo Processor, up to Intel P8600 2.4GHz processor. The industrial panel PC also features one PCI expansion slot for option, three COM ports, four USB 2.0 ports, two 2.5” HDD, one external CF slot for option, and 9~32V DC, etc. It is ideal for use as a PC-based controller for Automotive, Logistic Process, Materials Handling, and Kiosk applications.

Figure 1.2: Front View of APC-3918P

Figure 1.3: Rear View of APC-3918P

1.6 Panel Mounting of APC-3918P

APC-3918P panel PC is designed to be panel-mounted as shown in Figure 1.7. Just carefully place the unit through the hole and tighten the given 10 screws from the rear to secure the mounting.

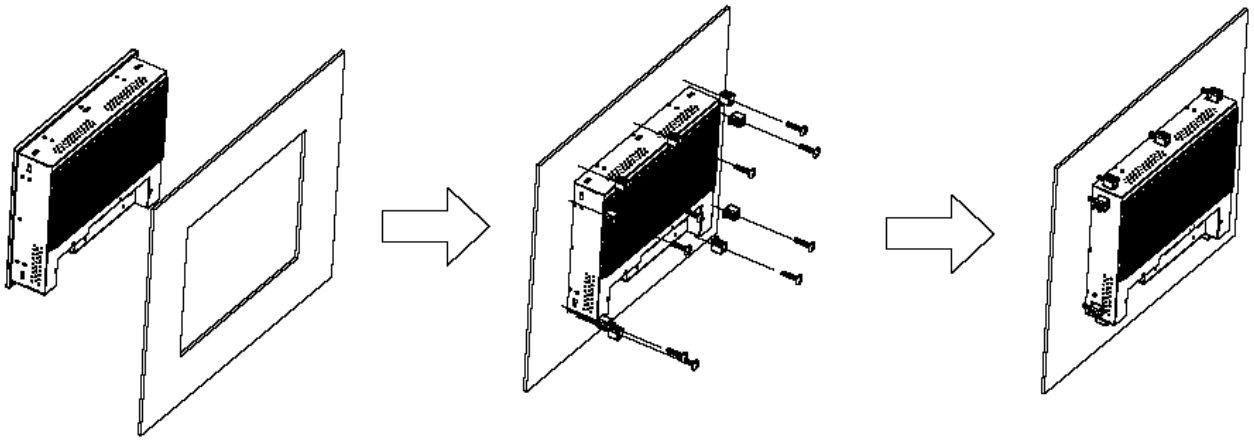


Figure 1.4: Panel mounting of APC-3918P

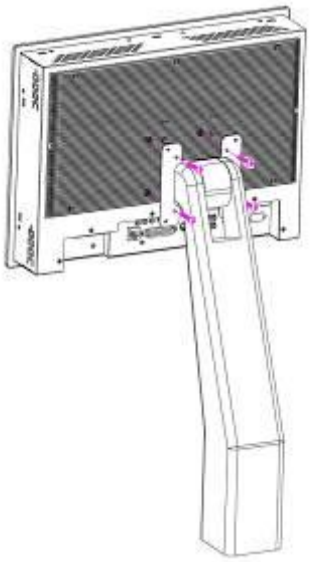


Figure 1.5: VESA mounting of APC-3918P

Chapter 2 Hardware

2.1 Mainboard

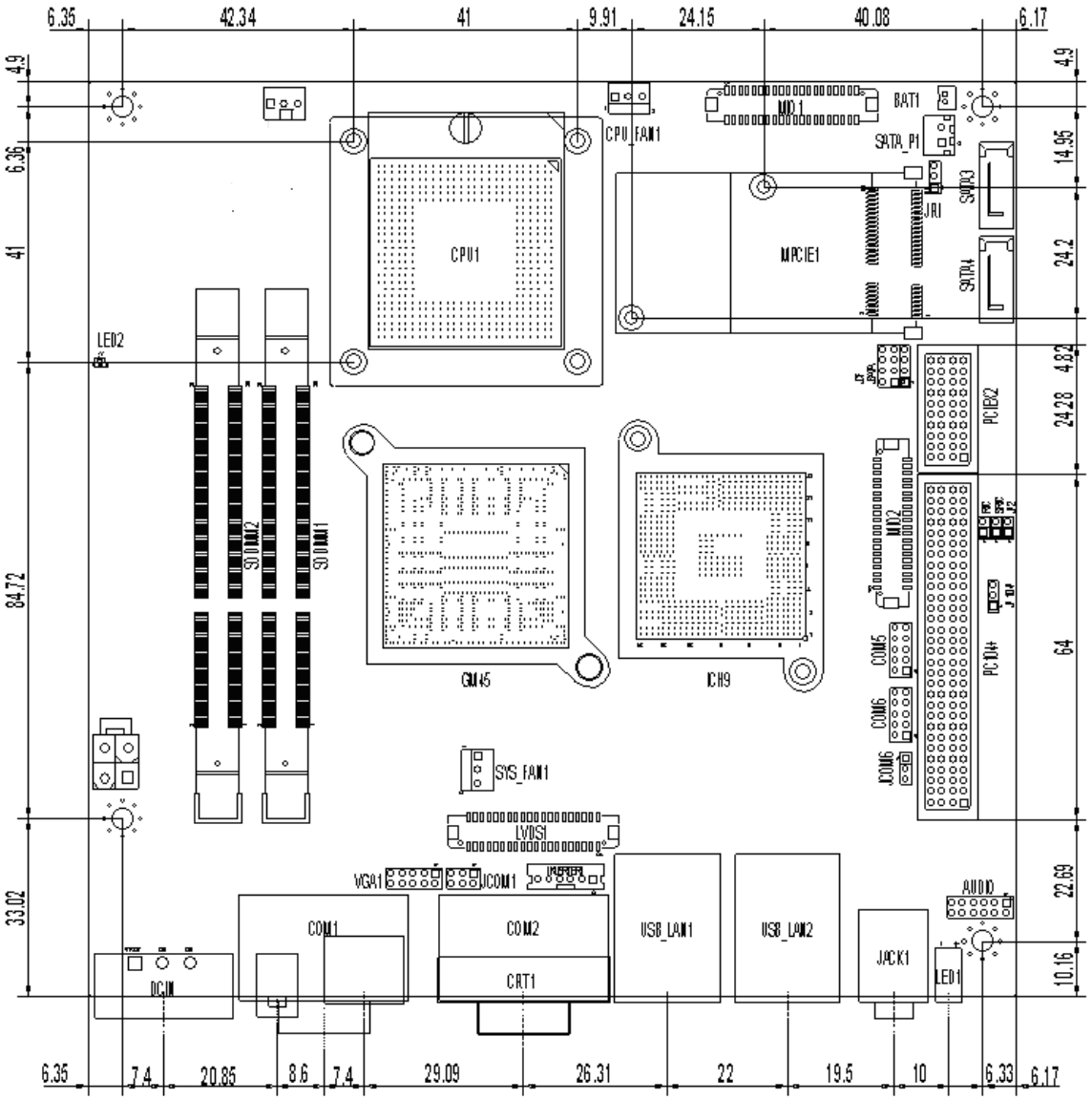


Figure 2.1: Mainboard Dimensions

2.2 Installations

ASB-M801 is a Mini-ITX industrial motherboard developed on the basis of Intel GM45 and ICH9M, which provides abundant peripheral interfaces to meet the needs of different customers. Also, it features dual 1000M LAN port, 6-COM port and one Mini PCIE configuration. To satisfy the special needs of high-end customers, PC104+ port (capable of adjusting IO voltage) richer extension functions. The product is widely used in various sectors of industrial control.

2.2.1 Jumpers Setting and Connectors

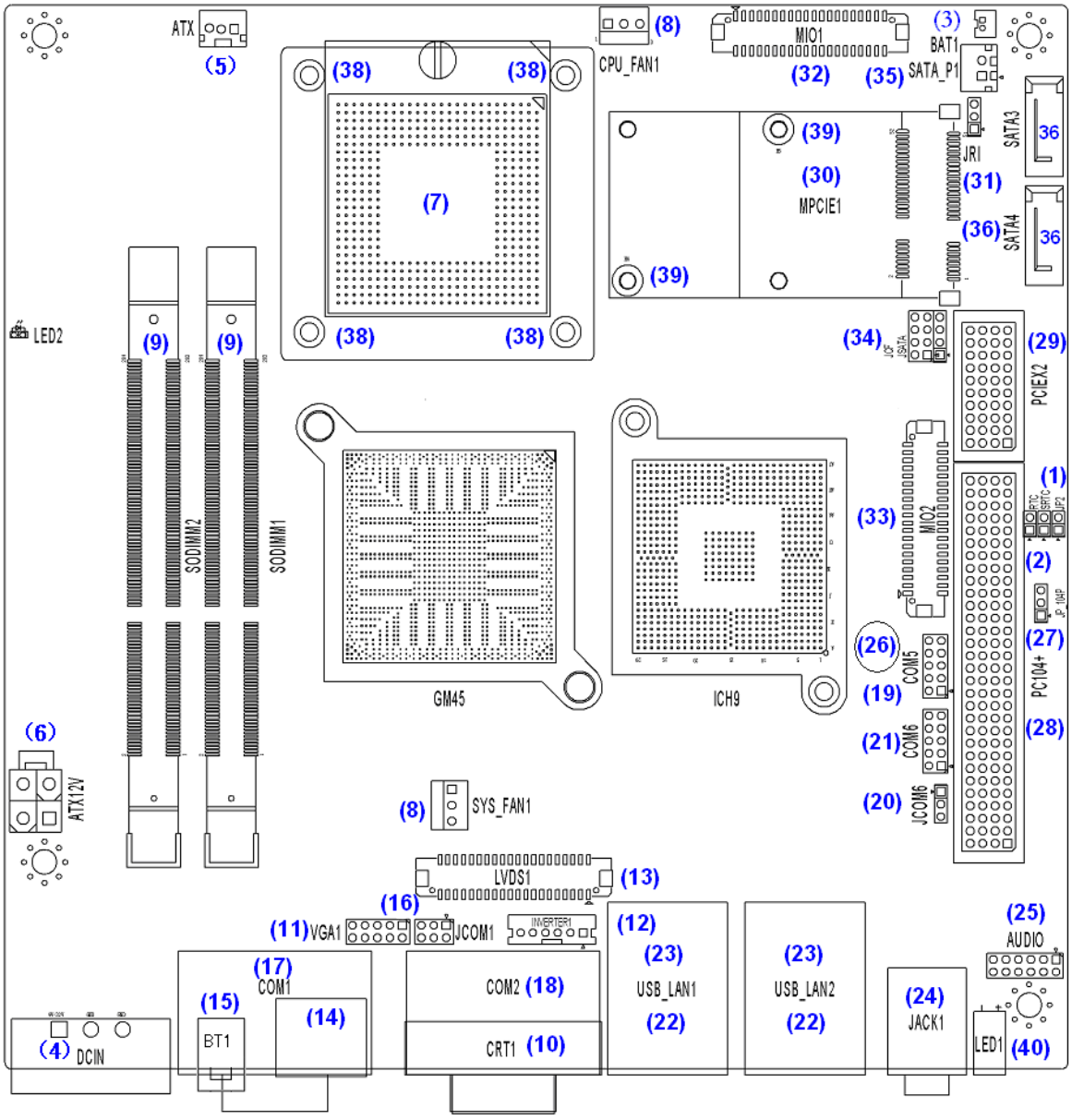


Figure 2.2: Jumpers and Connectors Location_ Board Top

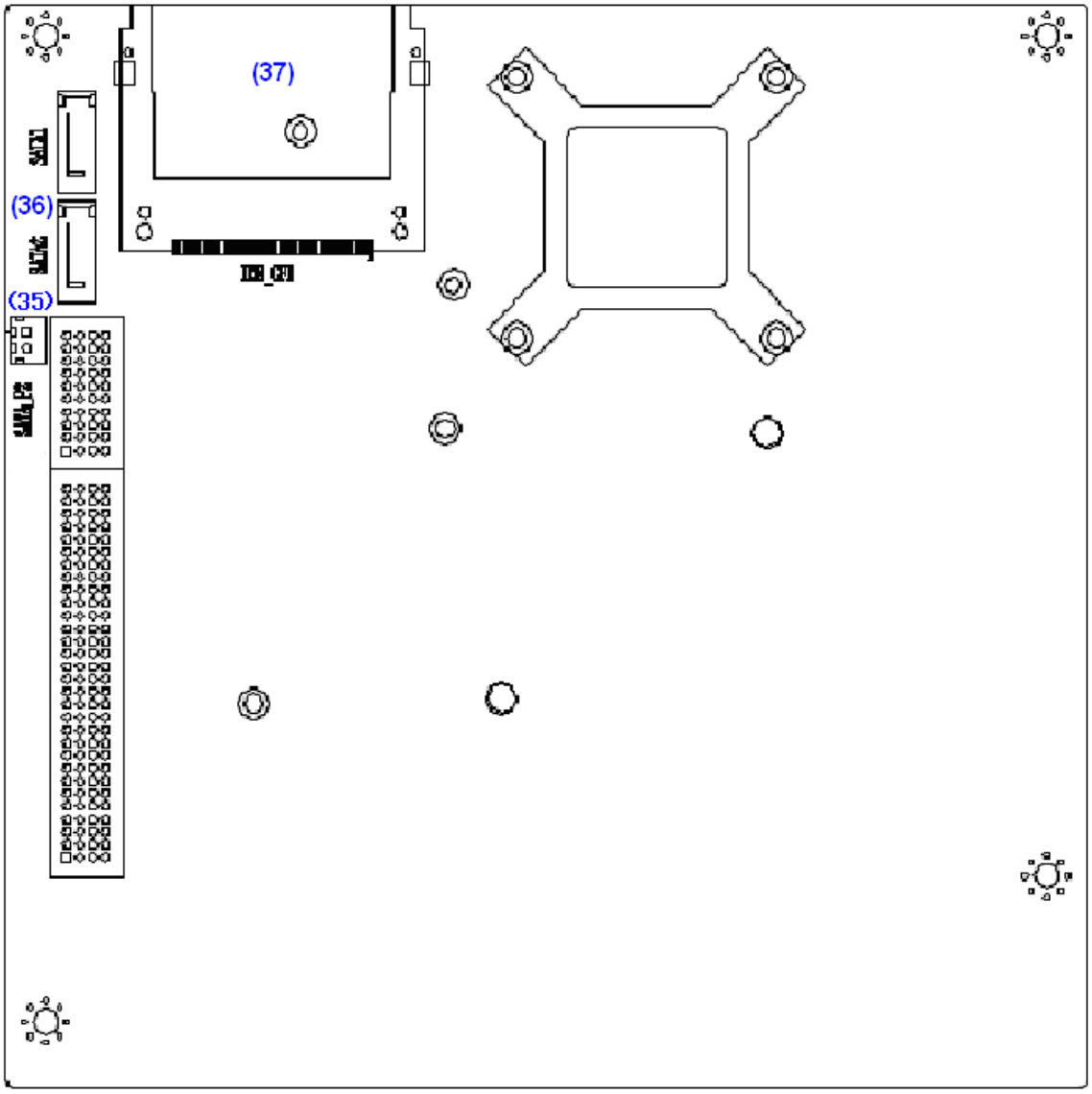


Figure 2.3: Jumpers and Connectors Location_ Board Bottom

1. JP2:

(2.0mm Pitch 1X2 Pin Header),ATX Power and Auto Power on jumper setting**.**

JP2	Mode
Open	ATX Power
Close	**Auto Power on** (Default)

2. RTC/SRTC:

(2.0mm Pitch 1X2 Pin Header)CMOS clear jumper, CMOS clear operation will permanently reset old BIOS settings to factory defaults.

RTC/SRTC	CMOS

Open	NORMAL (Default)
Close 1-2	Clear CMOS

Procedures of CMOS clear:

a) Turn off the system and unplug the power cord from the power outlet.

b) To clear the CMOS settings, use the jumper cap to close pins1 and 2 for about 3 seconds then reinstall the jumper clip back to pins open.

c) Power on the system again.

d) When entering the POST screen, press the <F1> or <DEL> key to enter CMOS Setup Utility to load optimal defaults.

e) After the above operations, save changes and exit BIOS Setup.

3. BAT1 :

(1.25mm Pitch 1X2 box Pin Header) 3.0V Li battery is embedded to provide power for CMOS.

Pin#	Signal Name
Pin1	VBAT
PIN2	Ground

4. DCIN:

(5.08mm Pitch 1x3 Pin Connector),DC9V ~ DC32V System power input connector。

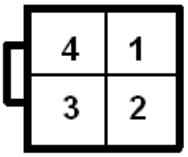
Pin#	Power Input
Pin1	DC+9V~32 V
Pin2	Ground
Pin3	Ground

Power Mode	Location (5.4.4.)	Location (5.4.5.)	Location (5.4.6.) **ATX**

	DCIN	ATX12V	
AT (Default)	**input** DC9~32V	**output** DC 12V	**NC**

5. ATX12V:

(2x2 Pin Connector),DC12V System power output connector.



Pin#	Power output
Pin1	Ground
Pin2	Ground
Pin3	DC+12V
Pin4	DC+12V

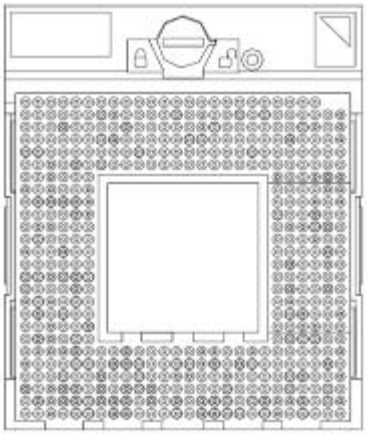
6. ATX (option):

(2.0mm Pitch 1X3 box Pin Header), connect PSON and 5VSB and Ground signal,support ATX Power model. Reserved.

Pin#	Signal Name
Pin1	ATX PSON
PIN2	ATX Ground
PIN3	ATX 5VSB

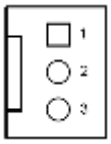
7. CPU1:

(Socket P), installing the CPU Socket.



8. CPU_FAN1/SYS_FAN1:

(2.54mm Pitch 1x3 Pin Header),Fan connector, cooling fans can be connected directly for use. You may set the rotation condition of cooling fan in menu of BIOS CMOS Setup.



Pin#	Signal Name
1	Ground
2	VCC
3	Rotation detection

Note:

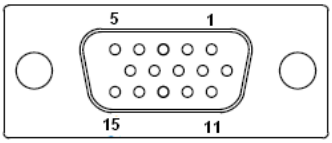
Output power of cooling fan must be limited under 5W.

9. SODIMM1/SODIMM2:

(SO-DIMM 204Pin socket), DDRIII memory socket, the socket is located at the Top of the board and supports 204Pin 1.5V DDRIII 800/1066MHz FSB SO-DIMM memory module up to 8GB.

10. CRT1:

(CRT DB15 Connector),Video Graphic Array Port, provide high-quality video output. **they can not work at the same time for CRT1 and VGA1**.



11. VGA1:

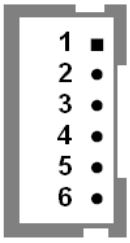
(CRT 2.0mm Pitch 2X5 Pin Header), Video Graphic Array Port, Provide 2x5Pin cable to VGA Port, **they can not work at the same time for CRT and VGA1**.

Signal Name	Pin#	Pin#	Signal Name
CRT_RED	1	2	Ground
CRT_GREEN	3	4	Ground
CRT_BLUE	5	6	VGA_EN
CRT_H_SYN	7	8	CRT_DDCDAT

C			A
CRT_V_SYNC	9	10	CRT_DDCCLK

12. INVERTER1:

(2.0mm Pitch 1x6 box Pin Header), Backlight control connector for LVDS1.



Pin#	Signal Name
1	+DC12V
2	+DC12V
3	Ground
4	Ground
5	BKLT_EN
6	BKLT_CTRL

Note:

Pin6 is backlight control signal, support DC or PWM mode, mode select at BIOS CMOS menu.

13. LVDS1:

(1.25mm Pitch 2x20 Connector), For 18/24-bit LVDS output connector, Fully supported by Intel GM45 chipset, the interface features dual channel 18/24-bit output.

Signal Name	Pin#	Pin#	Signal Name
VDD5	2	1	VDD5
Ground	4	3	Ground
VDD33	6	5	VDD33
LB_D0_N	8	7	LA_D0_N
LB_D0_P	10	9	LA_D0_P
Ground	12	11	Ground
LB_D1_N	14	13	LA_D1_N
LA_D1_P	16	15	LA_D1_P
Ground	18	17	Ground
LB_D2_N	20	19	LA_D2_N

LB_D2_P	22	21	LA_D2_P
Ground	24	23	Ground
LB_CLK_N	26	25	LA_CLK_N
LB_CLK_P	28	27	LA_CLK_P
Ground	30	29	Ground
DS_DDC_DATA	32	31	LVDS_DOC_CLK
Ground	34	33	Ground
LB_D3_N	36	35	LA_D3_N
LB_D3_P	38	37	LA_D3_P
NC	40	39	NC

14. BT1:

POWER on/off Button, They are used to connect power switch button. The two pins are disconnected under normal condition. You may short them temporarily to realize system startup & shutdown or awaken the system from sleep state.

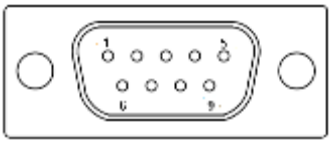
15. JCOM1:

(2.0mm Pitch 2x3 Pin Header),COM1 jumper setting, pin 1~6 are used to select signal out of pin 9 of COM1 port.

JP3 Pin#	Function
Close 1-2	**COM1 RI (Ring Indicator) (default)**
Close 3-4	COM1 Pin9=+5V (option)
Close 5-6	COM1 Pin9=+12V (option)

16. COM1:

(Type DB9),Rear serial port, standard DB9 Male serial port is provided to make a direct connection to serial devices. COM1 port is controlled by pins No.1~6 of JCOM1,select output Signal RI or 5V or 12v, For details, please refer to description of JCOM1.

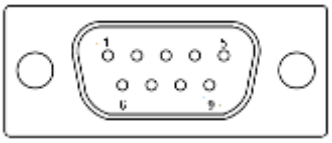


Pin#	Signal Name

1	DCD# (Data Carrier Detect)
2	RXD (Received Data)
3	TXD (Transmit Data)
4	DTR (Data Terminal Ready)
5	Ground
6	DSR (Data Set Ready)
7	RTS (Request To Send)
8	CTS (Clear To Send)
9	**JCOM1 select Setting**

17. COM2:

(Type DB9),Rear serial port, standard DB9 Male serial port is provided to make a direct connection to serial devices.



Pin#	Signal Name
1	DCD# (Data Carrier Detect)
2	RXD (Received Data)
3	TXD (Transmit Data)
4	DTR (Data Terminal Ready)
5	Ground
6	DSR (Data Set Ready)
7	RTS (Request To Send)
8	CTS (Clear To Send)
9	RI **(**Ring Indicator**)**

18. COM5:

(2.0mm Pitch 2X5 Pin Header),COM5 Port, standard RS232 ports are provided. They can be used directly via COM cable connection.

Signal Name	Pin#	Pin#	Signal Name
DCD	1	2	RXD
TXD	3	4	DTR
Ground	5	6	DSR
RTS	7	8	CTS

RI	9	10	NC

19. JCOM6:

(2.0mm Pitch 1x3 Pin Header) COM6 setting jumper, pin 1~3 are used to select signal out of pin 10 of COM6 port.

JP1 Pin#	Function
Close 1-2	**COM5 Pin10=+5V (default)**
Close 2-3	COM5 Pin10=+12V (option)

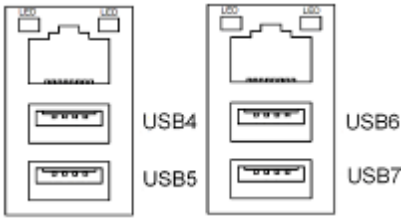
20. COM6:

(2.0mm Pitch 2X5 Pin Header), COM6 Port, standard RS232 ports are provided. They can be used directly via COM cable connection. COM6 port is controlled by pins No.1~3 of JCOM6,select output Signal 5V or 12v, For details, please refer to description of **JCOM6**.

Signal Name	Pin#	Pin#	Signal Name
DCD	1	2	RXD
TXD	3	4	DTR
Ground	5	6	DSR
RTS	7	8	CTS
RI	9	**10**	**JCOM6 select Setting**

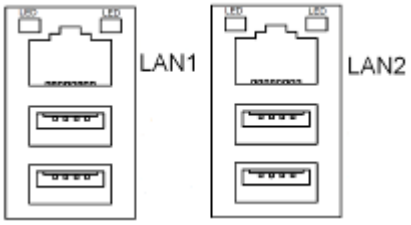
21. USB4/USB5/USB6/USB7:

(Double stack USB type A), Rear USB connector, it provides up to 4 USB2.0 ports, speed up to 480Mb/s.



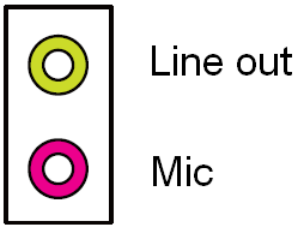
22. LAN1/LAN2:

(RJ45 Connector), Rear LAN port, Two standard 10/100/1000M RJ-45 Ethernet ports are provided. Used Intel 82574L chipset, LINK LED (green) and ACTIVE LED (yellow) respectively located at the left-hand and right-hand side of the Ethernet port indicate the activity and transmission state of LAN.



23. JACK1:

(Diameter 3.5mm Double stack Jack), HD Audio port, An onboard Realtek ALC662 codec is used to provide high quality audio I/O ports. Line Out can be connected to a headphone or amplifier, MIC is the port for microphone input audio.



24. AUDIO:

(2.0mm Pitch 2X6 Pin Header), Front Audio, An onboard Realtek ALC662 codec is used to provide high-quality audio I/O ports. Line Out can be connected to a headphone or amplifier. Line In is used for the connection of external audio source via a Line in cable. MIC is the port for microphone input audio.

Signal Name	Pin#	Pin#	Signal Name
FRONT_OUTP-L	1	2	FRONT_OUTP_R
FRONT_OUTN_L	3	4	FRONT_OUTN_R
FRONT_JD	5	6	LINE1_JD
LINE_IN_L	7	8	LINE1_IN_R
MIC2_IN_L	9	10	MIC2_IN_R
Ground	11	12	MIC2_JD

25. BZ:

Onboard buzzer.

26. JP_104P:

(2.0mm Pitch 1X3 Pin Header) PC104+ port voltage selection jumper, select voltage for PCI-104 Plus devices. **The default for this jumper is “all open”,meaning the user must select the voltage to be used.**

JP_104P Pin#	PC104+ VIO Voltage
All Open	**Default**
Close 1-2	+3.3V PCI Card
Close 2-3	+5V PCI Card

27. PC104+ (option):

(4x30 Pin), PC104 plus connector, it conforms to standard PC104+ specification. Can expand support four PCI devices.

ASB-M801T/ET：PC104+ connector in the top.

ASB-M801B/EB：PC104+ connector in the Bottom.

28. PCIEX2 (option):

(4x10 Pin), PCIe bus connector, it conforms to standard PCI Express x1 specification. Can expand support two PCIe devices.

ASB-M801T/ET：PCIEX2 connector in the top.

ASB-M801B/EB：PCIEX2 connector in the Bottom.

MODEL	PC104+ / PCIEX2
ASB-M801T	Top
ASB-M801ET	Top
ASB-M801B	Bottom
ASB-M801EB	Bottom

29. MPCIE1:

(Socket 52Pin),mini PCIe socket, it is located at the top, it supports mini PCIe devices with USB2.0, SMBUS and PCIe signal. MPCIe card size is 30x30mm or 30x50.95mm.

30. JRI:

(2.0mm Pitch 1X3 Pin Header), Wake up setting jumper. pin 1~2 are used to select signal for COM4 Wake up, pin 2~3 are used to select signal for PCI devices Wake up,

JRI Pin#	Function
Close 1-2	PCI_PME for COM4
Close 2-3	PCI-PME for PCI

31. MIO1:

(1.25mm Pitch 2x20 Connector),For expand output connector, It provides two RS232 ports or one RS485 port, three USB ports, one power led, one power button, via a dedicated cable connected **to TB-522 MIO1.**

Function	Signal Name	Pin#	Pin#	Signal Name	Function
COM3	422RX+	1	2	485+ / 422TX+	COM3 RS422 or RS485
	422RX-	3	4	485- / 422TX-	
	Ground	5	6	NC	
	NC	7	8	NC	
	NC	9	10	5V_S5	
COM4	DCD4-	11	12	RXD4	COM4
	TXD4	13	14	DTR4-	
	Ground	15	16	DSR4-	
	RTS4-	17	18	CTS4-	
	RI4-	19	20	5V_S5	
USB9	5V_USB_9	21	22	5V_USB_1011	USB10
	USB9_N	23	24	USB10_N	
	USB9_P	25	26	USB10_P	
	Ground	27	28	Ground	
	Ground	29	30	Ground	
USB11	5V_USB_1011	31	32	PWR_LED+	Power LED
	USB11_N	33	34	PWR_LED-	
	USB11_P	35	36	MIO_PSON	Power Button
	Ground	37	38	Ground	
	Ground	39	40	Ground	

32. MIO2:

(1.25mm Pitch 2x20 Connector), Front panel connector.

Function	Signal Name	Pin#	Pin#	Signal Name	Function
H_LED+	HDD_LED	1	2	PWR-LED	P_LED+
H_LED-	Ground	3	4	Ground	P_LED-
RESET-	Ground	5	6	MIO_PSON-	PSON+
RESET+	RESET	7	8	Ground	PSON-
BUZZER+	BUZZER+	9	10	BUZZER-	BUZZER-
GPIO_IN	GPIO_IN_1	11	12	GPIO_OUT_1	GPIO_OUT
	GPIO_IN_2	13	14	GPIO_OUT_2	
	GPIO_IN_3	15	16	GPIO_OUT_3	
	GPIO_IN_4	17	18	GPIO_OUT_4	
	Ground	19	20	5V_S5	

PS2_K/B	Ps2_KBDATA	21	22	PS2_MSDATA	PS2_Mouse
	PS2_KBCLK	23	24	PS2_MSCLK	
USB2	5V_USB_23	25	26	5V_USB_23	USB3
	USB2_N	27	28	USB3_N	
	USB2_P	29	30	USB3_P	
	Ground	31	32	Ground	
USB0	5V_USB_01	33	34	5V_USB_01	USB1
	USB0_N	35	36	USB1_N	
	USB0_P	37	38	USB1_P	
	Ground	39	40	Ground	

Pin1-3: **HDD LED**, They are used to connect hard disk activity LED. The LED blinks when the hard disk is reading or writing data.

Pin2-4: **POWER LED**, They are used to connect power LED. When the system is powered on or under S0/S1 state, the LED is normally on, when the system is
under S4/S5 state, the LED is off.

Pin5-7: **RESET Button**, They are used to connect reset button. The two pins are disconnected under normal condition. You may short them temporarily to realize
system reset.

Pin6-8: **POWER on/off Button**, They are used to connect power switch button. The two pins are disconnected under normal condition. You may short them temporarily to realize system startup & shutdown or awaken the system from
sleep state.

Pin9-10: **BUZZER**, They are used to connect an external buzzer.

Pin11-18: **GPIO IN/GPIO OUT,** General-purpose input/output port, it provides a group of self-programming interfaces to customers for flexible use.

Pin19-24: **PS2 KB/MS,** PS/2 keyboard and mouse port, the port can be connected to PS/2 keyboard and mouse via a dedicated cable for direct used.

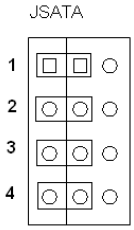
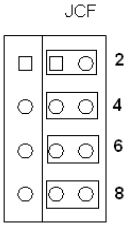
Pin25-40: **USB0/USB1/USB2/USB3**, Front USB connector, it provides 4 USB ports via a dedicated USB cable, speed up to 480Mb/s.

Note:

When connecting LEDs and buzzer and GPIO and USB, pay special attention to the signal polarity. Make sure that the connector pins have a one-to-one correspondence with chassis wiring, or it may cause boot up failure.

33. JCF/JSATA:

(2.0mm Pitch 3x4 Pin Header), it provides selectable IDE_CF1 or SATA4 signal output control.

Function	Jumper setting
SATA 4 **(Default)**	
IDE_CF 1 (option)	

34. SATA_P1/SATA_P2:

(2.5mm Pitch 1x2 box Pin Header), Two onboard 5V output connectors are reserved to provide power for SATA devices.

Pin#	Signal Name
1	+DC5V
2	Ground

Note:

Output current of the connector must not be above 1A.

35. SATA1/SATA2/SATA3/SATA4:

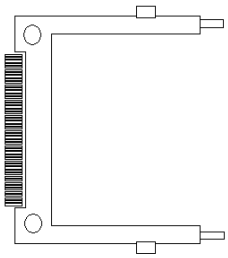
(SATA 7P), SATA Connectors, Four SATA connectors are provided, with transfer speed up to 3.0Gb/s.

ASB-M801ET/EB: SATA1/SATA2/SATA3 drives supporting RAID 0 or RAID 1 function.

MODEL	SATA Color	RAID
ASB-M801T ASB-M801B	Black: SATA1/SATA2/SATA3/SATA4	No
ASB-M801ET ASB-M801EB	Blue: SATA1/SATA2/SATA3 Black: SATA4	Yes

36. IDE_CF1 (option):

(CF Card socket), it is located at the bottom of the board and serves as an insert interface for Type I and Type II Compact Flash card. The operating voltage of CF card can be set as 3.3V or 5V,**The default setting of the product is 3.3V**. Please refer to description of JCF/JSATA Jumper setting.



37. CPU SCREW HOLES:

CPU FAN SCREW HOLES, Four screw holes for fixed CPU Cooler assemble.

38. H5/H6:

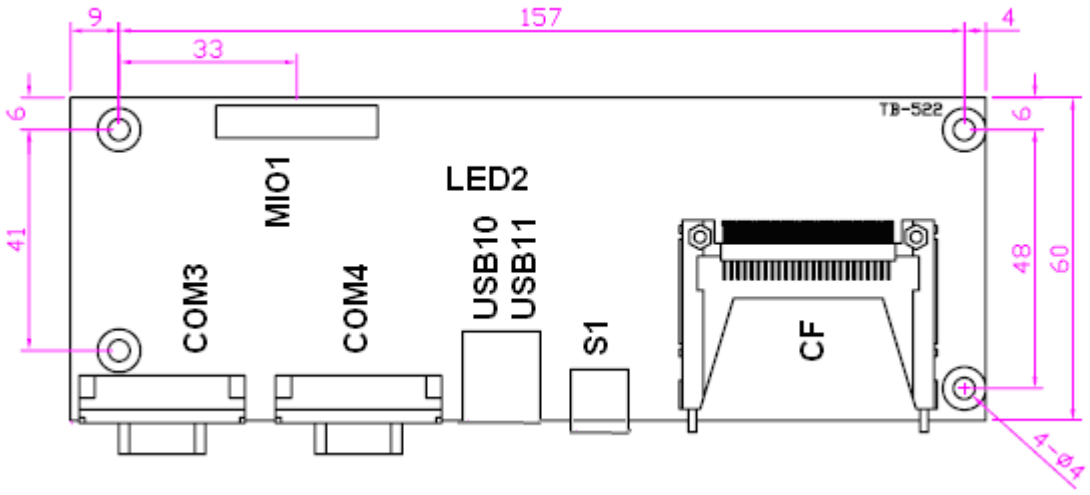
MPCIE1 SCREW HOLES, H5 for mini PCIE card (30mmx30mm) assemble. H6 for mini PCIE card (30mmx50.95mm) assemble.

39. LED1:

LED STATUS. Green LED for Motherboard Standby Power Good status, Yellow LED for HDD status.

40. TB-522:

ASB-M801 I/O Card, via a dedicated cable connected to ASB-M801 MIO1.



LED2:

POWER LED status.

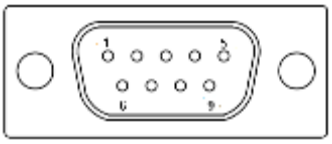
S1:

PWR BT: POWER on/off Button, They are used to connect power switch button. The two pins are disconnected under normal condition. You may short them temporarily to realize system startup & shutdown or awaken the system from sleep state.

PWR LED: POWER LED status.

COM3:

(Type DB9),I/O serial port, it provides selectable RS422/RS485 serial signal output.



RS422 Type (option)		RS485 Type (option)	
Signal Name	Pin#	Pin#	Signal Name
422_RX+	1	1	NC
422_RX-	2	2	NC
422_TX-	3	3	485-
422_TX+	4	4	485+
Ground	5	5	Ground
NC	6	6	NC
NC	7	7	NC
NC	8	8	NC
NC	9	9	NC

Note:

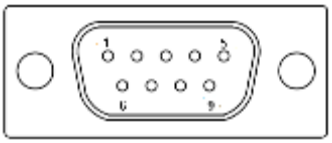
Use COM3 RS422 or RS485 Function, please enter BIOS CMOS Setup. Path: BIOS Setup Utility \ Advanced /Super IO Configuration \ Serial Port3 Type:

[RS-485]

[RS-422]

COM4:

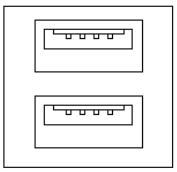
(Type DB9),Rear serial port, standard DB9 Male serial port is provided to make a direct connection to serial devices.



Pin#	Signal Name
1	DCD# (Data Carrier Detect)
2	RXD (Received Data)
3	TXD (Transmit Data)
4	DTR (Data Terminal Ready)
5	Ground
6	DSR (Data Set Ready)
7	RTS (Request To Send)
8	CTS (Clear To Send)
9	RI **(**Ring Indicator**)**

USB10,USB11:

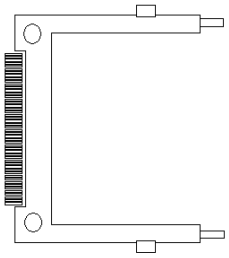
(Double stack USB type A), I/O USB connector, it provides up to 2 USB2.0 ports, speed up to 480Mb/s.



USB10/11

CF:

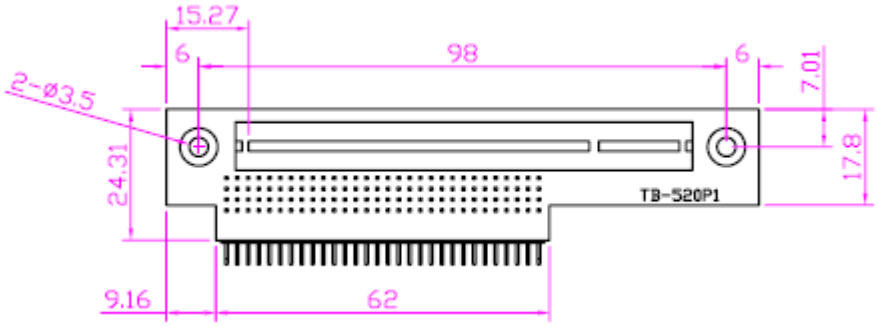
(CF Card socket), it is located at TB-522 and serves as an insert interface for Type I and Type II Compact Flash card. The operating voltage of CF card can be set as 3.3V or 5V. **The default setting of the product is 3.3V.**



41. TB-520P1:

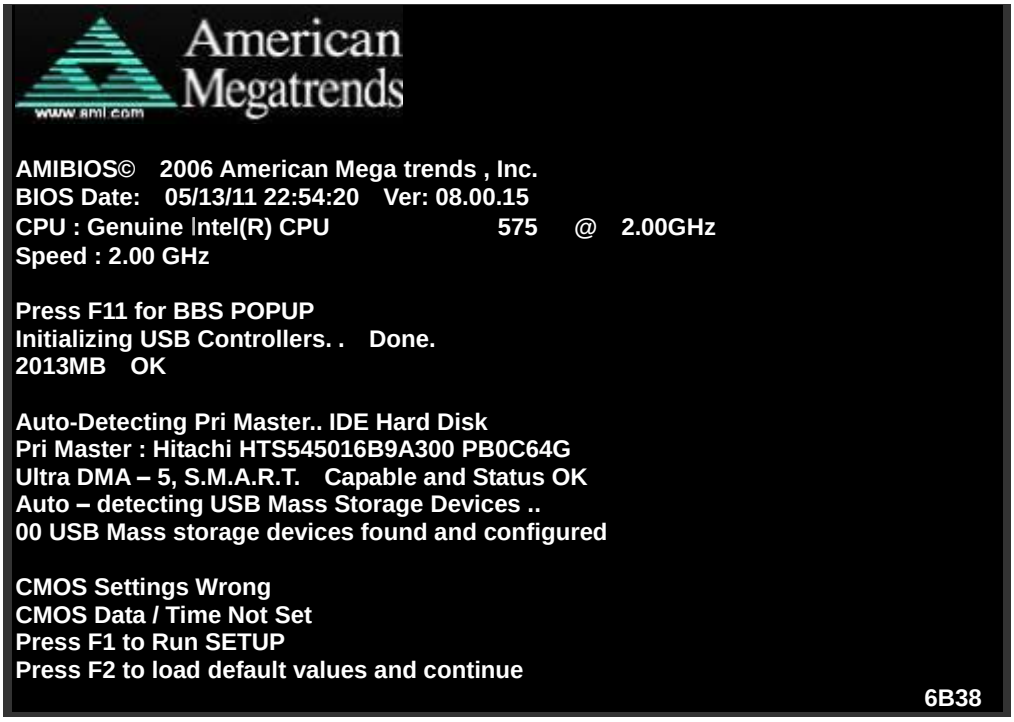
TB-520P1 connect to ASB-M801T/ET PC104+ connector, PC104+ is located at the top,

It provides one PCI slot.



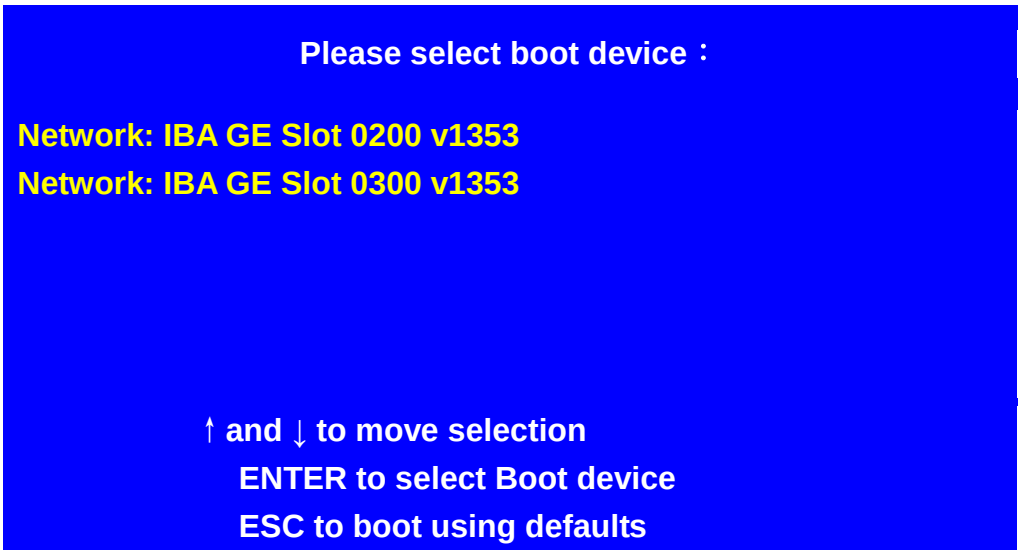
3.1 Operations after POST Screen

After CMOS discharge or BIOS flashing operation, the system will display the following screen for your further operation. Press F2 key to continue or F1 key to enter CMOS Setup.



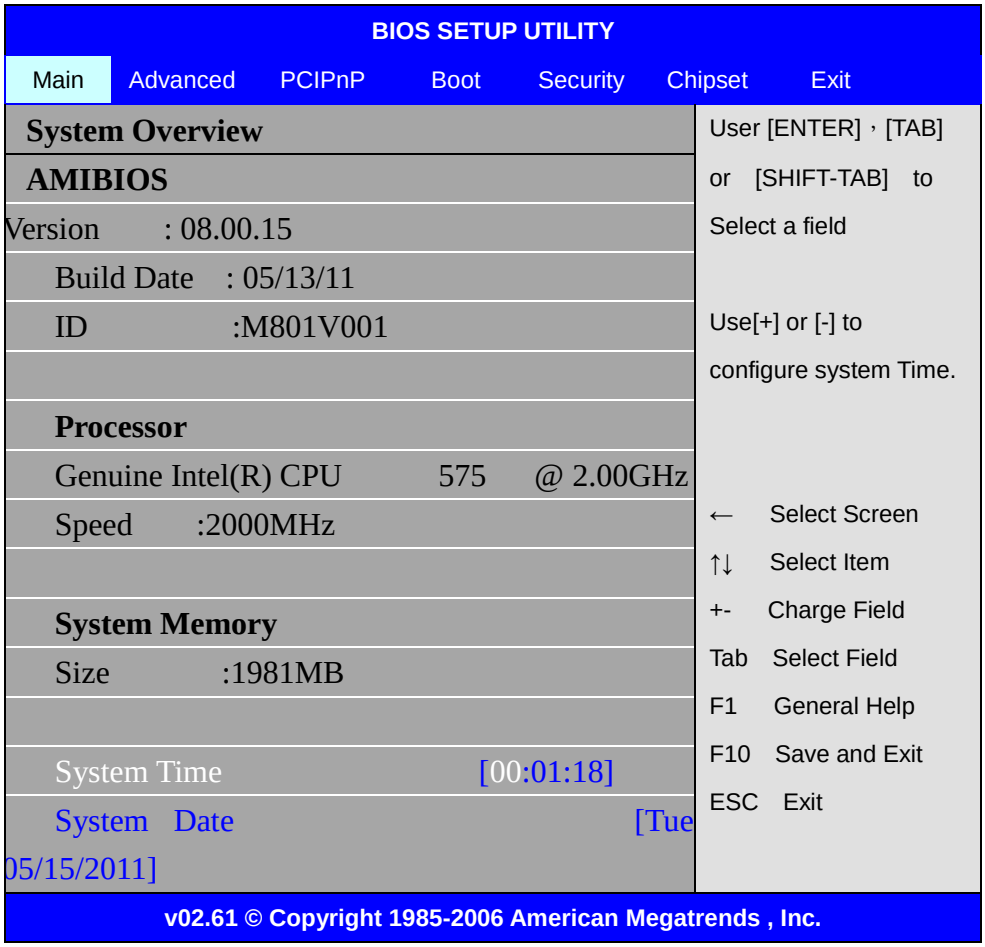
After optimizing and exiting CMOS Setup, the POST screen displayed for the first time is as follows and includes basic information on BIOS, CPU, memory, and storage devices.

Press **F11** key to enter Boot Menu during POST, as shown by the following figure.

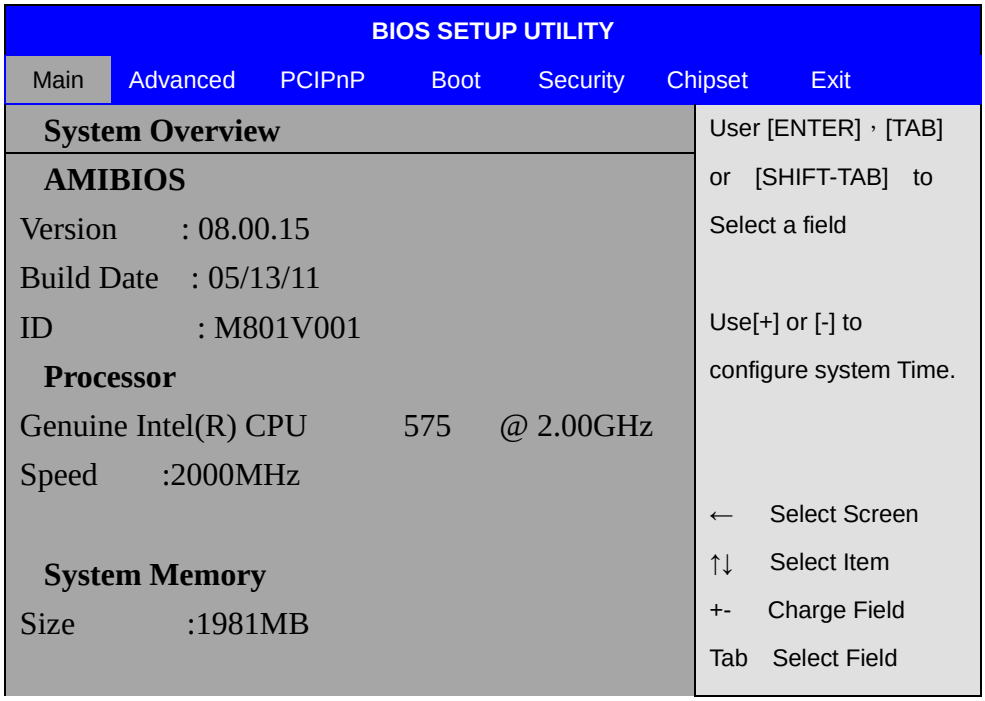


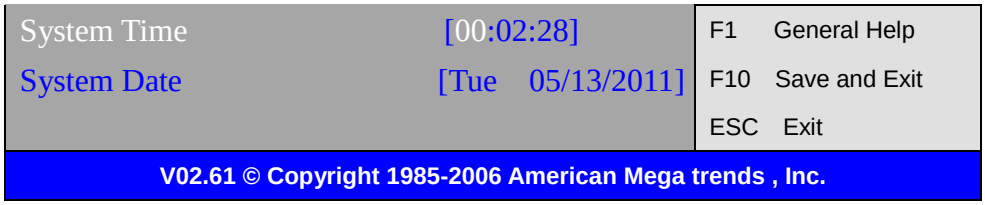
3.2 BIOS SETUP UTILITY

Press [Del] key to enter BIOS Setup utility during POST, and then a main menu containing system summary information will appear.



3.3 System Overview





System Time:

Set the system time, the time format is:

Hour : 0 to 23

Minute : 0 to 59

Second : 0 to 59

System Date:

Set the system date, the date format is:

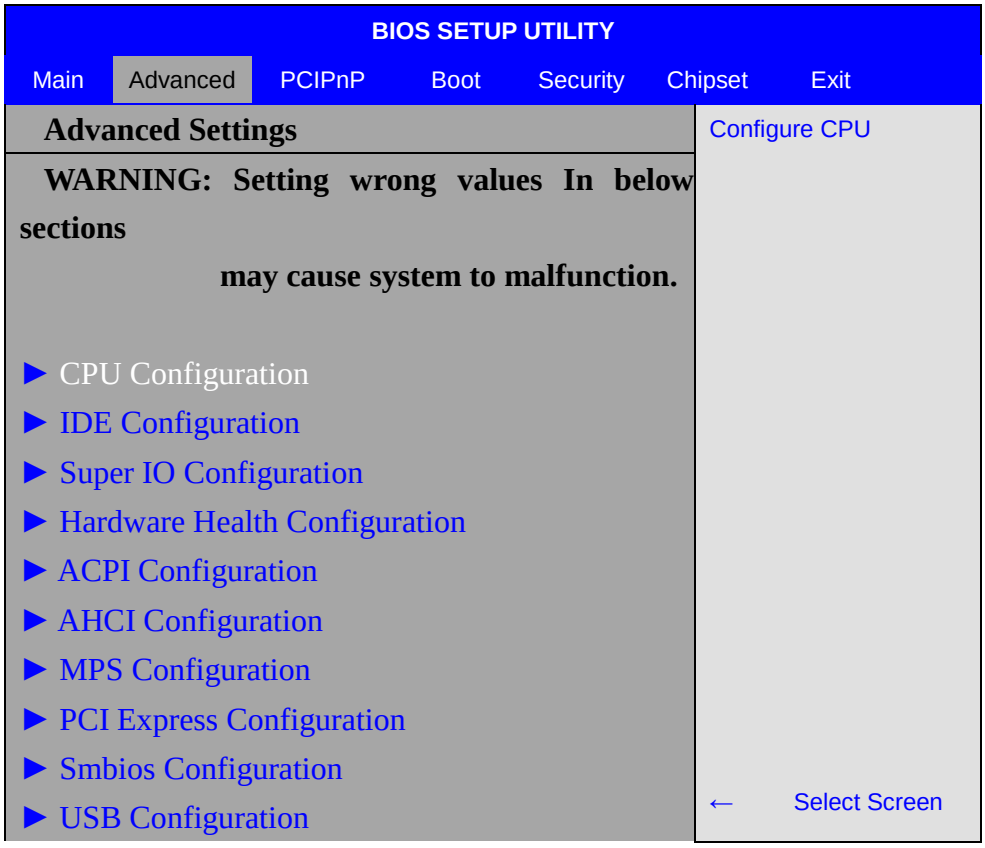
Day: Note that the 'Day' automatically changes when you set the date.

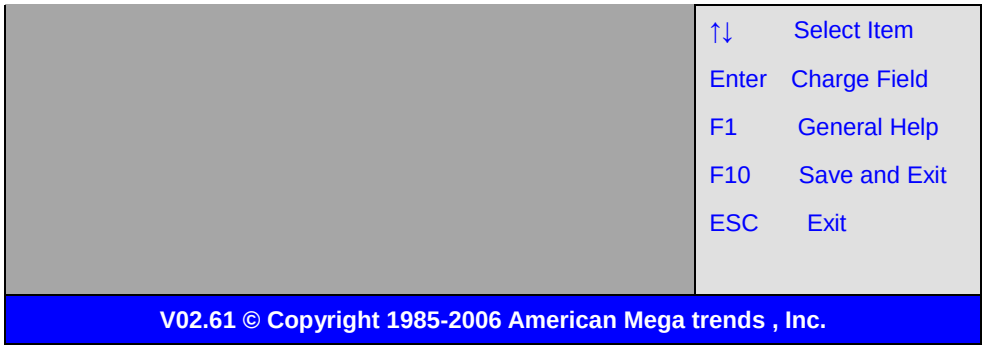
Month: 01 to 12

Date: 01 to 31

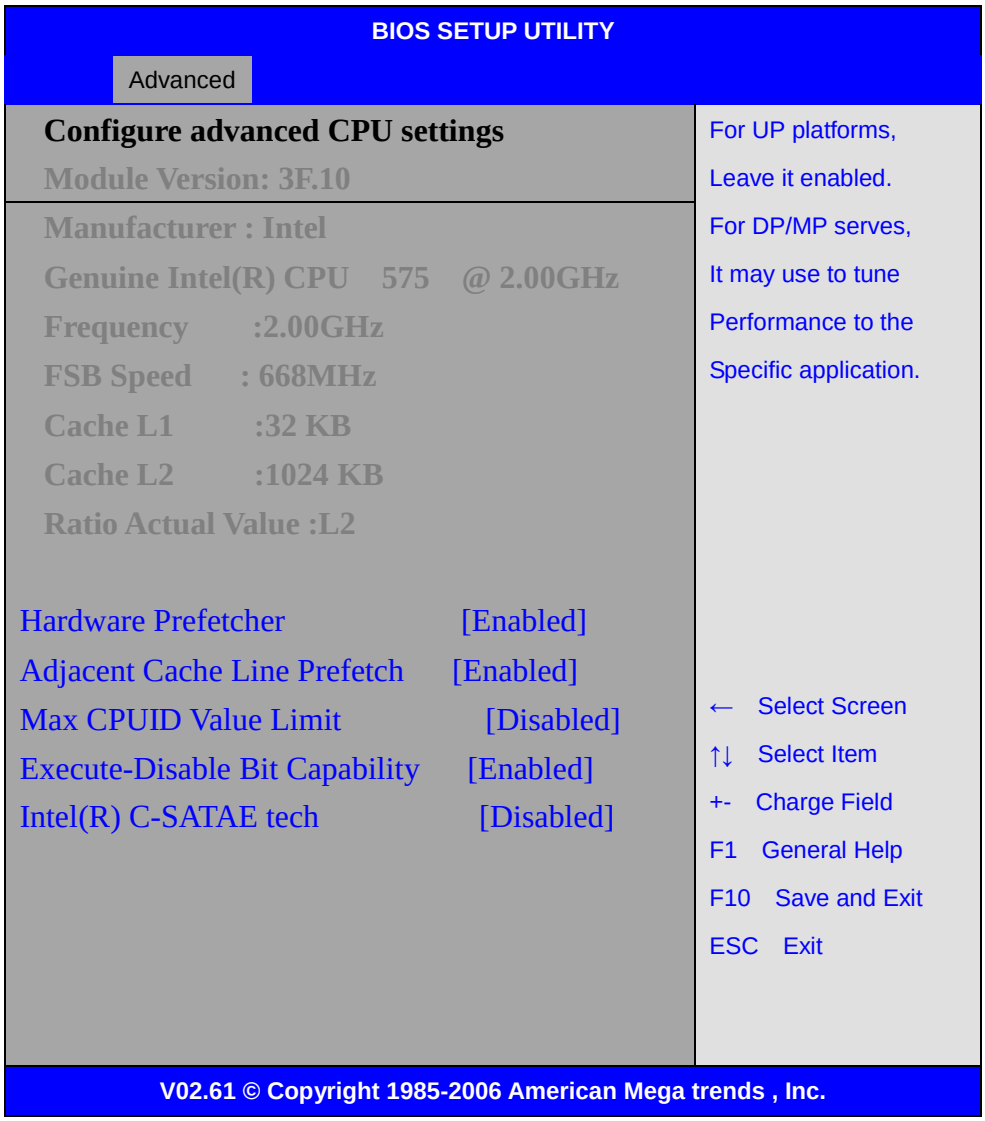
Year: 2009 to 2099

3.4 Advanced Settings





3.4.1 CPU Configuration



Hardware Prefetcher:

[Enabled]

[Disabled]

Adjacent Cache Line Prefetch:

[Enabled]
[Disabled]

Max CPUID Value Limit:

[Disabled]
[Enabled]

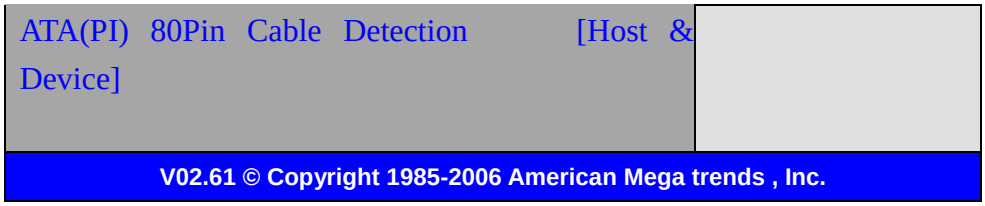
Execute-Disable Bit Capability:

[Enabled]
[Disabled]

Intel(R) C-STATE tech:

[Disabled]
[Enabled]

3.4.2 IDE Configuration



SATA#1 Configuration:

[Compatible]
[Disabled]
[Enhanced]

Configure SATA as:

[IDE]
[RAID]
[AHCI]

SATA#2 Configuration:

[Enhanced]
[Disabled]

Hard Disk Write Protect:

[Disabled]
[Enabled]

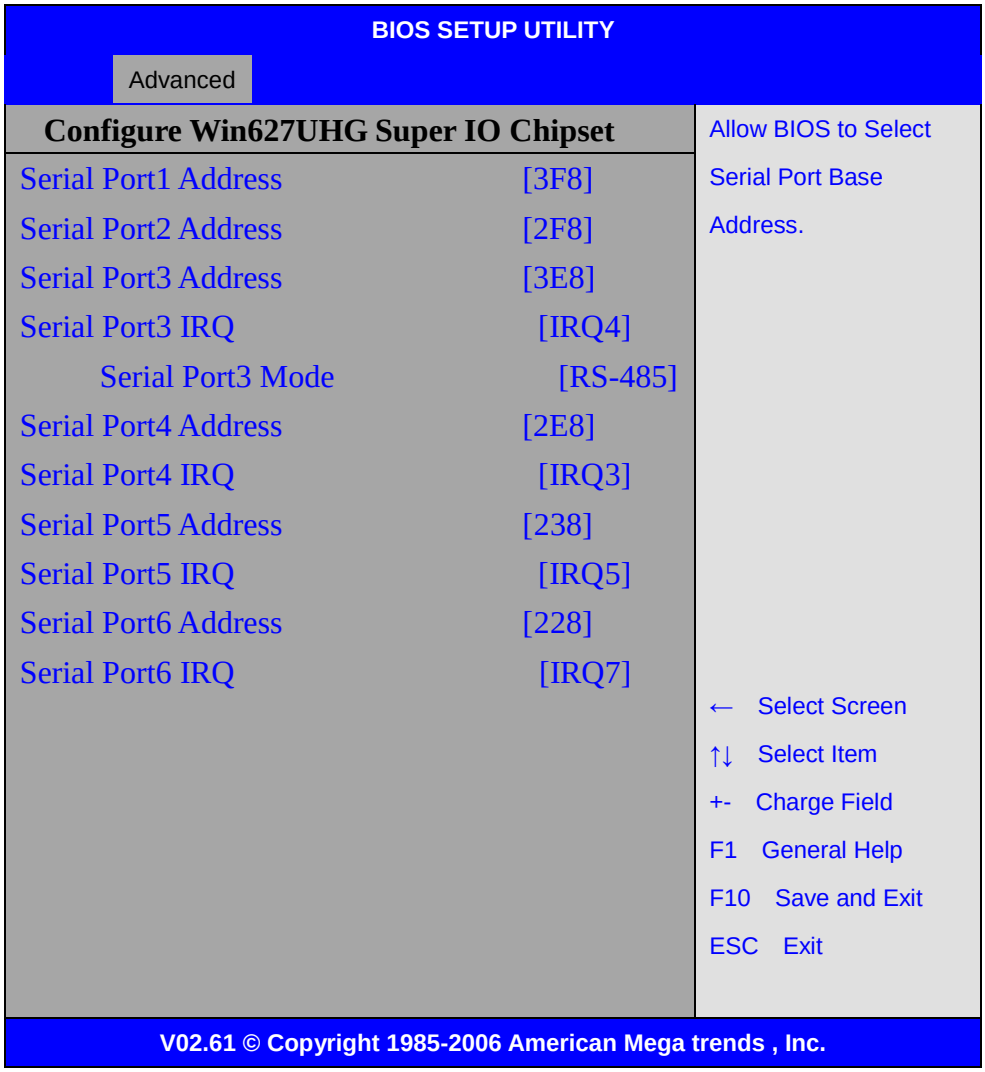
IDE Detect Time Out :

[35]
[0]
[5]
[10]
[15]
[20]
[25]
[30]

ATA(PI) 80Pin Cable Detection:

[Host & Device]
[Host]
[Device]

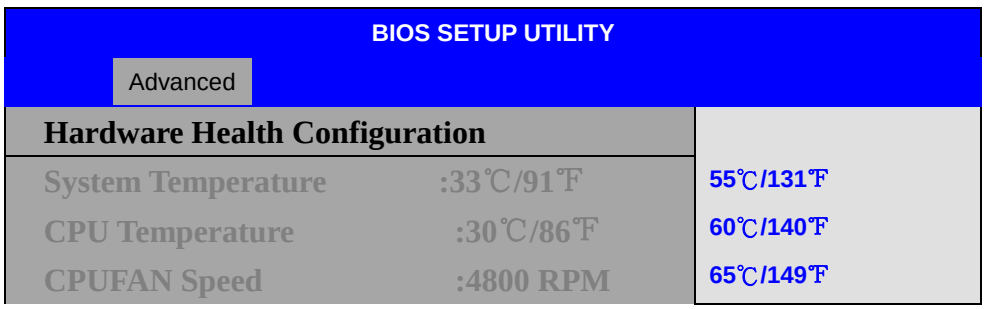
3.4.3 Super IO Configuration

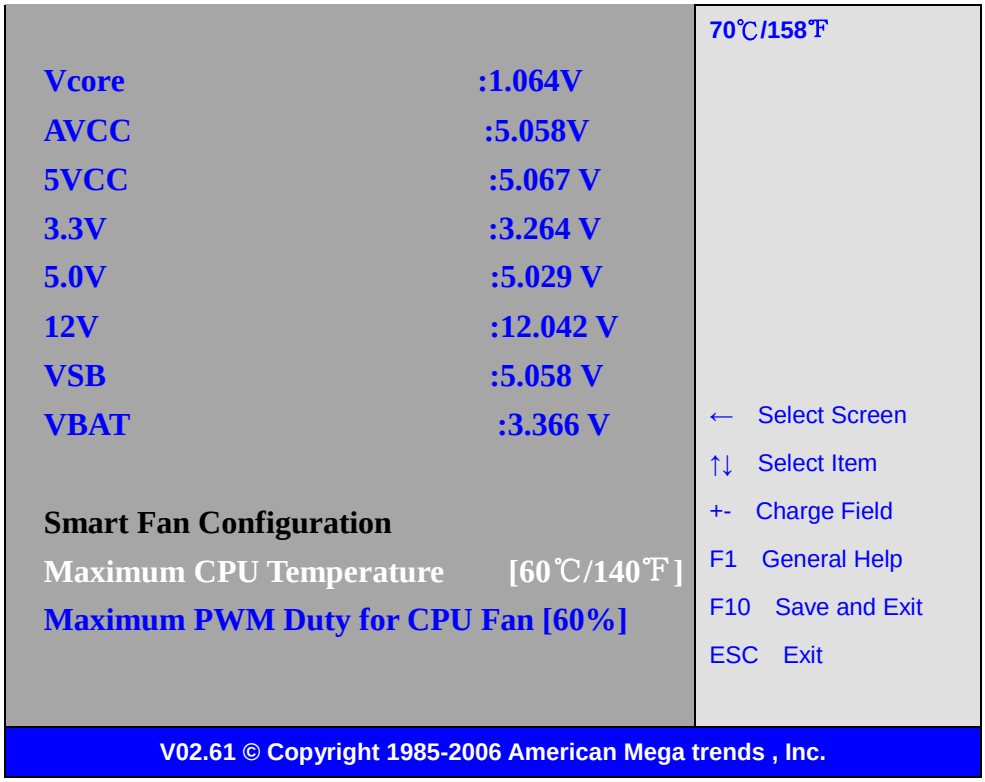


Serial Port3 Mode:

COM3 Options: **[RS485]**
[RS422]
[RS422] for RS422 Mode
[RS485] for RS485 Mode

3.4.4 Hardware Health Configuration





System Temperature:

Show you the current system temperature.

CPU Temperature:

Show you the current CPU temperature.

CPUFAN Speed:

Show you the current CPU Fan operating speed.

Maximum CPU Temperature:

[60℃/140℉]

[55℃/131℉]

[65℃/149℉]

[70℃/158℉]

Minimum PWM Duty for CPU Fan:

[60%]

[50%]

[70%]

[80%]

3.4.5 ACPI Configuration

ACPI Setting:

[Advanced ACPI Configuration]

ACPI Version Features:

[ACPI V1.0]
[ACPI V2.0]
[ACPI V3.0]

ACPI APIC support:

[Enabled]
[Disabled]

AMI OEMB table:

[Enabled]
[Disabled]

Headless mode:

[Disabled]
[Enabled]

[Chipset ACPI Configuration]:

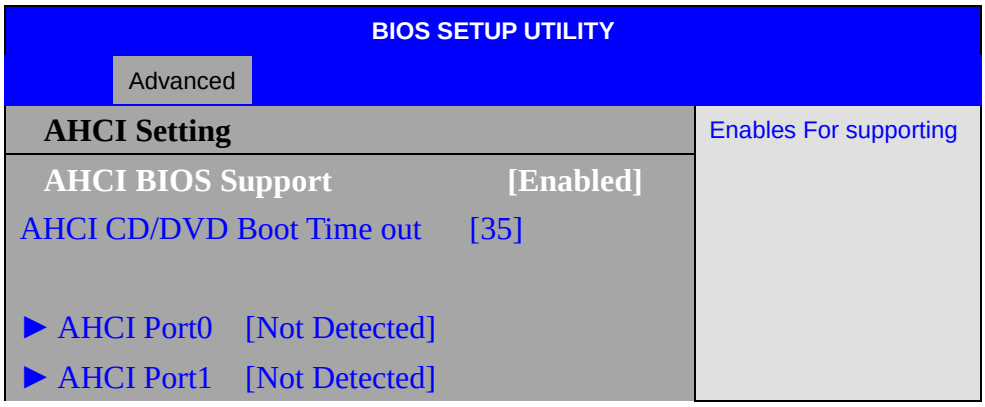
APIC ACPI SCI IRQ:

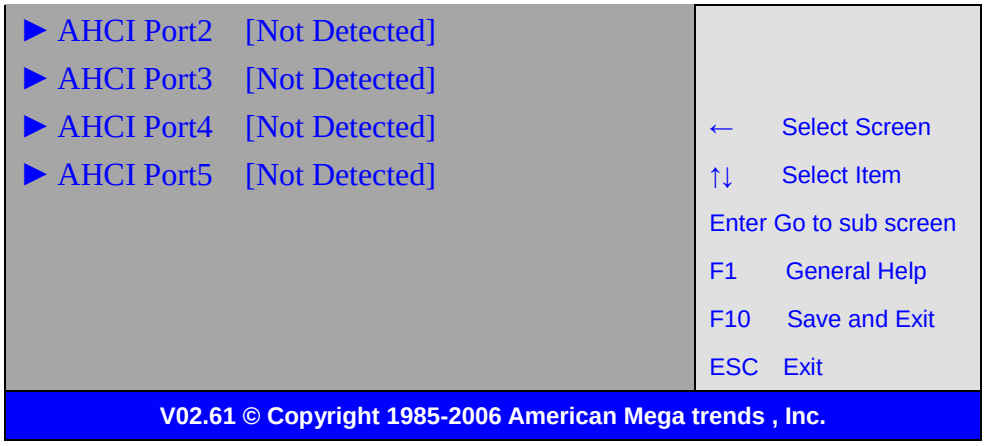
[Disabled]
[Enabled]

High Performance Event Timer:

[Disabled]
[Enabled]

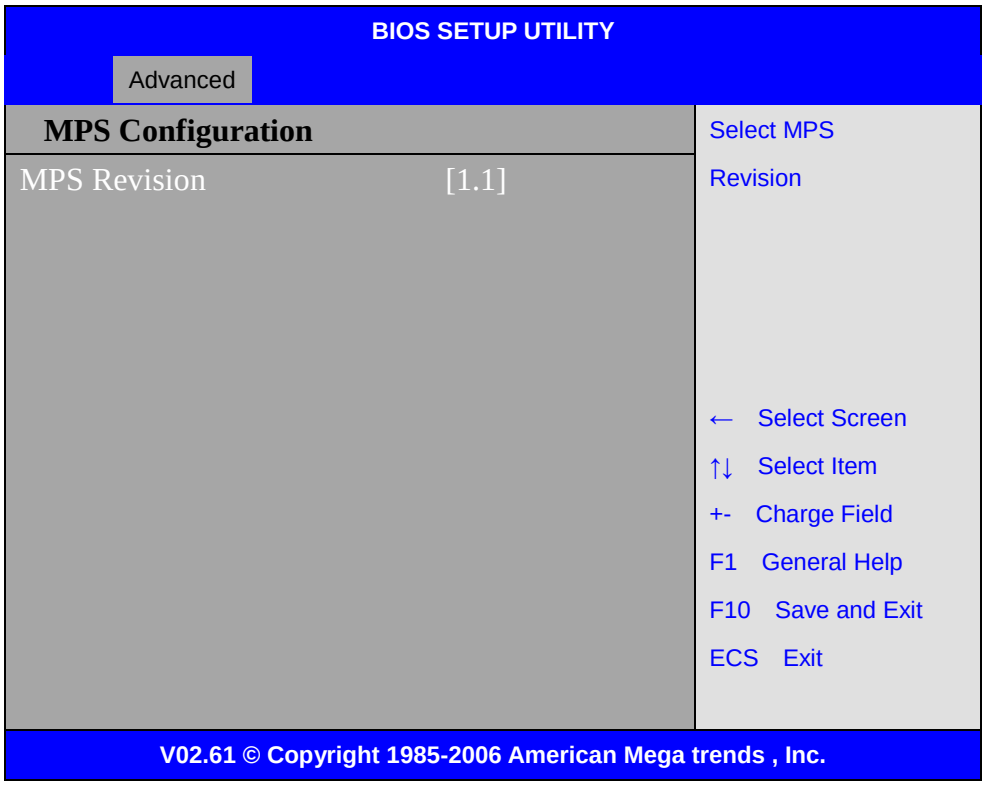
3.4.6 AHCI Configuration





While entering setup, BIOS auto detects the presence of IDE devices. This displays the status of auto detecting of IDE devices

3.4.7 MPS Configuration

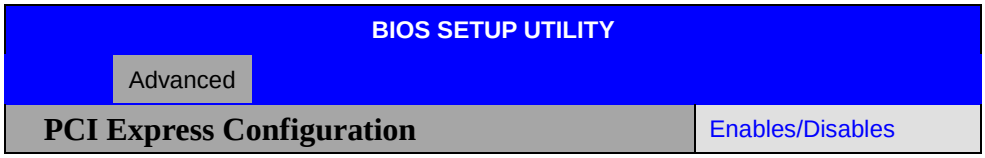


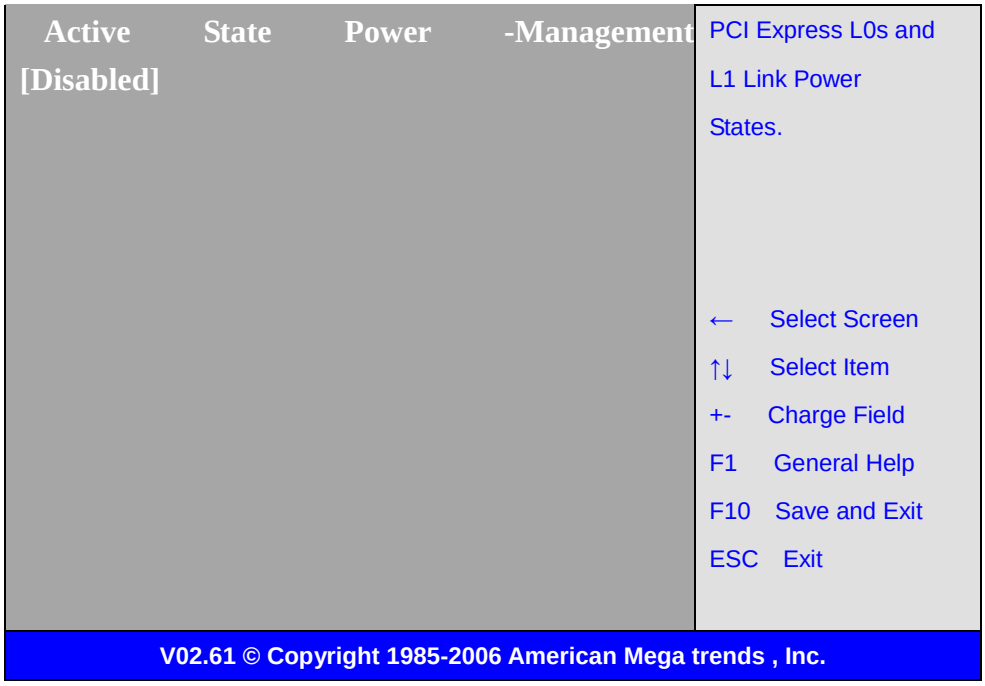
MPS Revision:

[1.1]

[1.4]

3.4.8 PCI Express Configuration



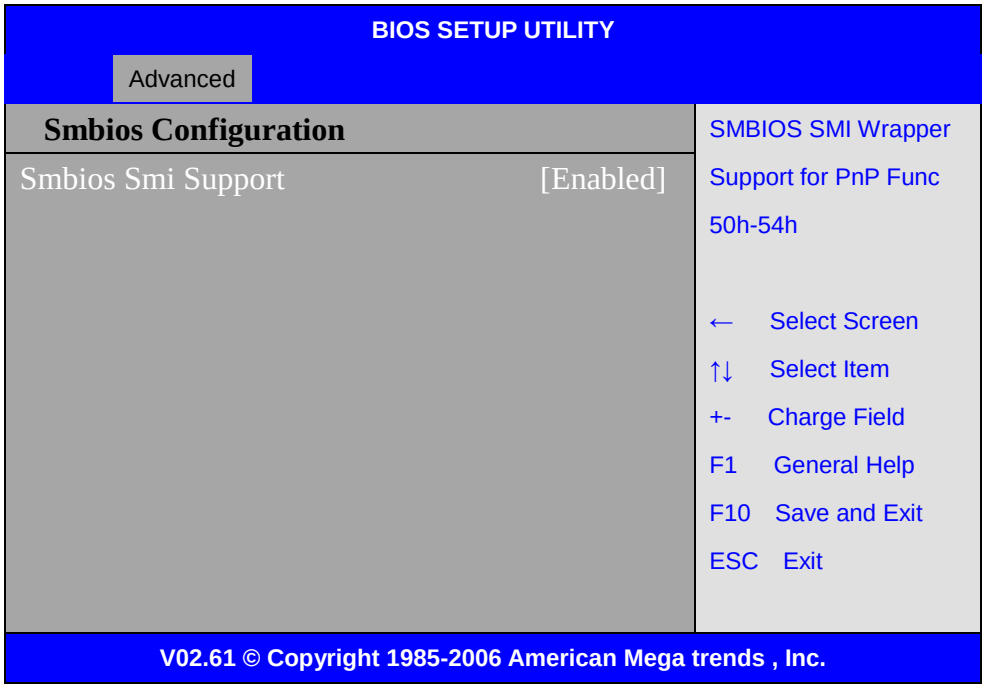


Active State Power Management:

[Disabled]

[Enabled]

3.4.9 Smbios Configuration

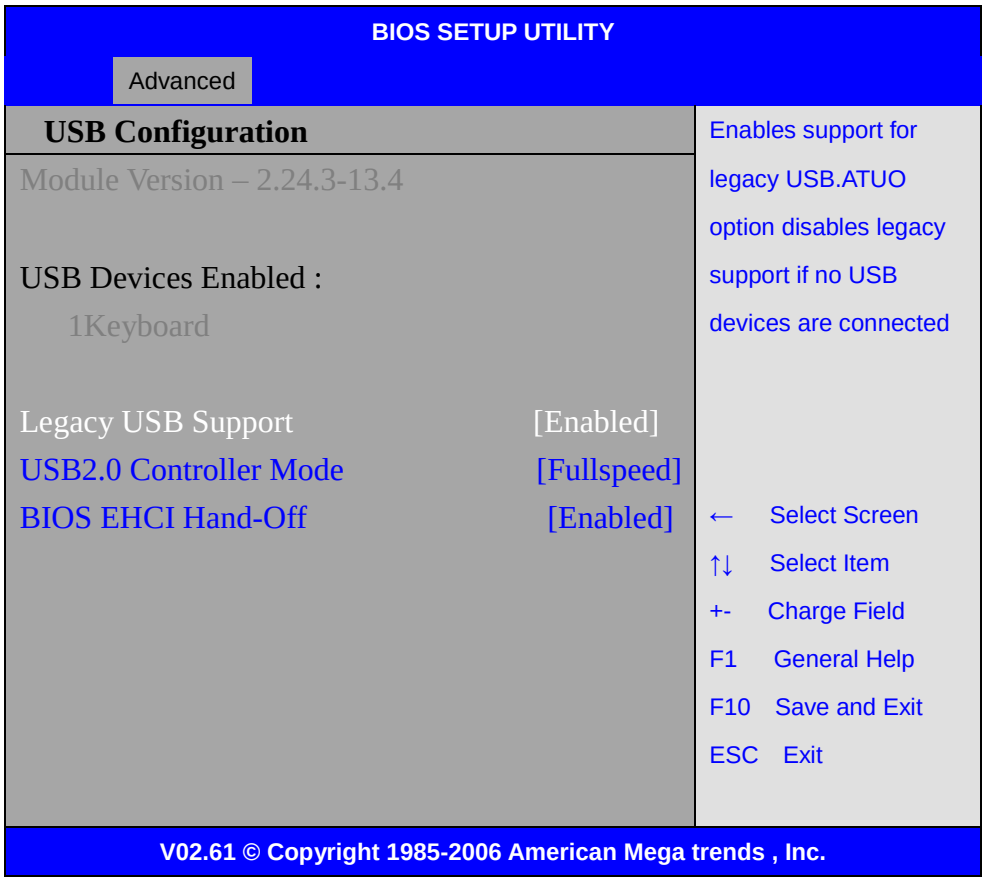


Smbios Smi Support:

[Enabled]

[Disabled]

3.4.10 USB Configuration



Legacy USB Support:

[Enabled]

[Disabled]

USB2.0 Controller Mode:

[FullSpeed]

[HiSpeed]

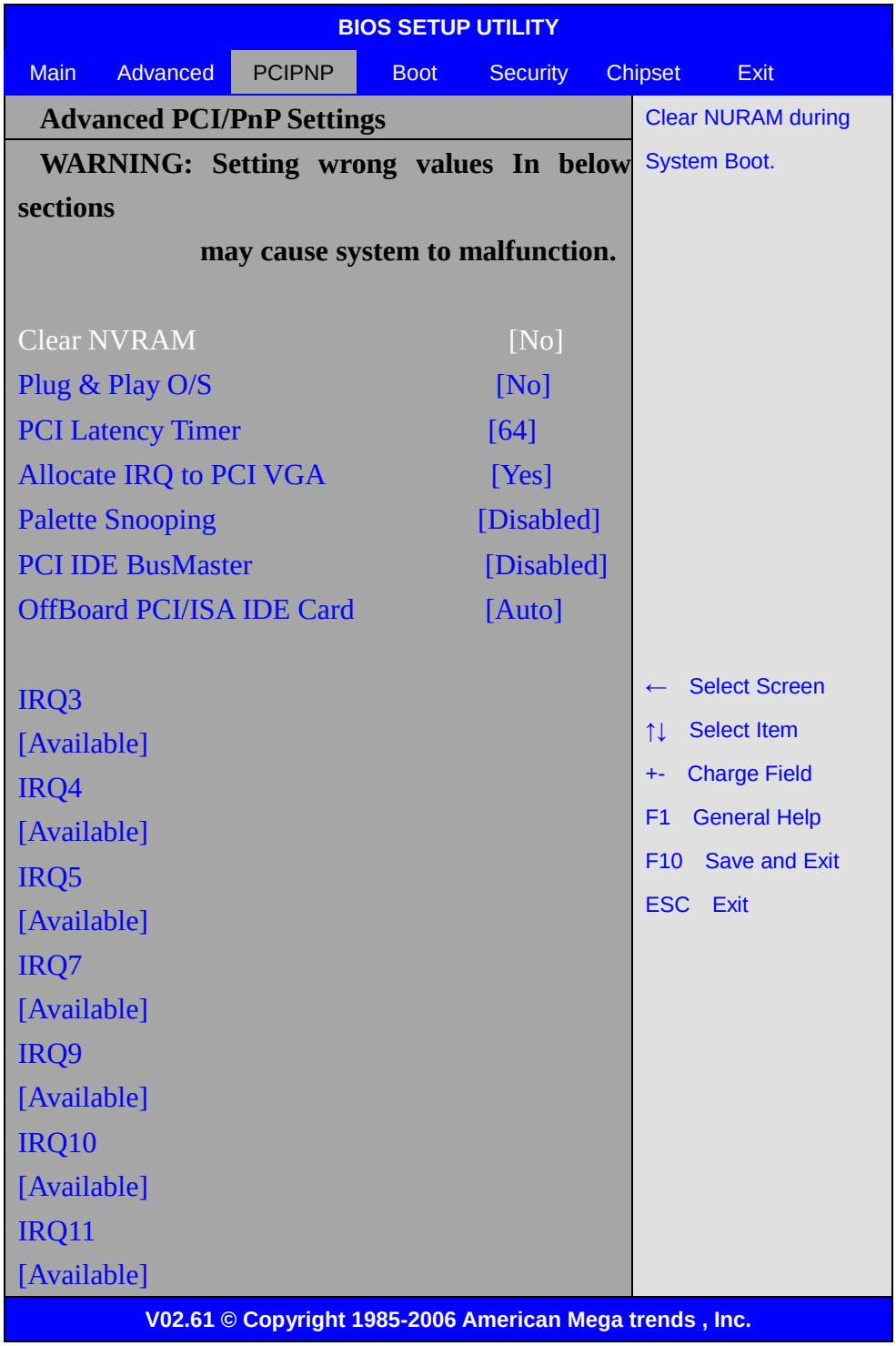
BIOS EHCI Hand-Off:

[Enabled]

[Disabled]

3.5 Advanced PCI/PnP Settings

This part describes configurations to be made on PCI bus system. PCI, namely Personal Computer Interconnect, is a computer bus that allows I/O device to operate nearly as fast as CPU in its own way. Some technical terms will be mentioned here. **We recommend that non-professional users not make changes from factory default settings.**



Clear NVRAM:

[**No**]

[Yes]

Plug & Play OS:

[**No**]

[Yes]

PCI Latency Timer:

[**64**]

[32]

[96]

[128]

[160]

[192]

[224]

[248]

Allocate IRQ to PCI VGA:

[Yes]

[No]

Palette Snooping:

[Disabled]

[Enabled]

PCI IDE BusMaster:

[Disabled]

[Enabled]

OffBoard PCI/ISA IDE Card:

Some PCI IDE cards may require this to be set to the PCI slot number that is holding the card. Auto:Works for most PCI IDE Cards.

[Auto]

[PCI Slot1]

[PCI Slot2]

[PCI Slot3]

[PCI Slot4]

[PCI Slot5]

[PCI Slot6]

IRQ3/4/5/7/9/10/11/14/15:

[Available]

[Reserved]

Available: Specified IRQ is available to be used by PCI/PnP devices.

Reserved: Specified IRQ is reserved for use by legacy ISA devices.

DMA Channel 0/1/3/5/6/7:

[Available]

[Reserved]

Available: Specified DMA is available to be used by PCI/PnP devices.

Reserved: Specified DMA is reserved for use by legacy ISA devices.

Reserved Memory Size:

Size of memory block to reserve for legacy ISA devices.

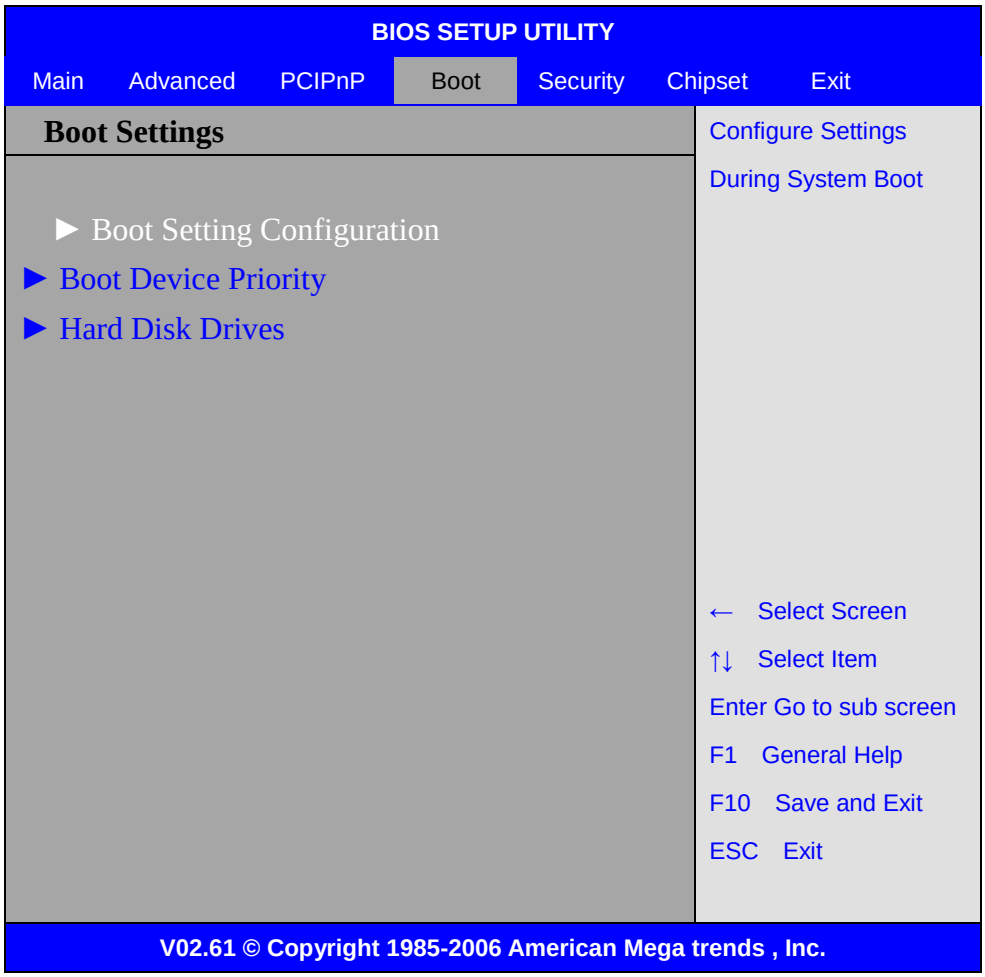
[Disabled]

[16k]

[32k]

[64k]

3.6 Boot Settings



Boot Setting Configuration：

Configure Settings during System Boot.

Quick Boot:

[**Enabled**]

[Disabled]

Allows BIOS to skip certain tests while booting .This will decrease the time needed to boot the system.

Quiet Boot:

[Disabled]

[Enabled]

Disabled: Displays normal POST messages.

Enabled: Displays OEM logo instead of POST messages.

AddOn ROM Display Mode:

Set display mode for Option ROM.

[**Force BIOS**]

[Keep Current]

Bootup Num－Lock:

Select Power-on state for Numlock.

[**On]**

[Off]

Wait For ‘F1’ If Error:

Wait for F1 key to be pressed if error occurs.

[**Enabled**]

[Disabled]

Hit ‘DEL’Messgae Display :

Displays “press” DEL to run Setup in POST.

[**Enabled**]

[Disabled]

Interrupt 19 Capture:

Enabled: Allows option ROMs to trap interrupt 19.

[Disabled]

[Enabled]

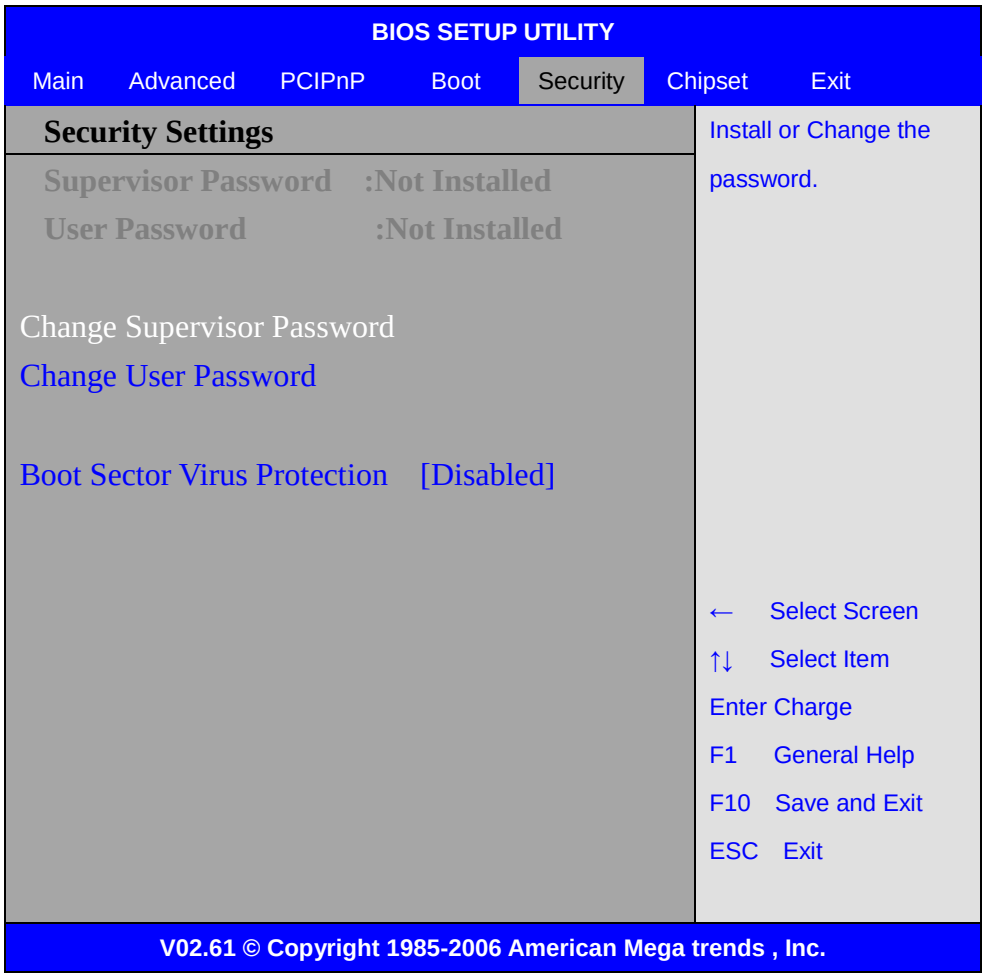
Boot Device Priority:

Specifies the Boot Device Priority sequence.

Hard Disk Devices :

Specifies the Boot Device Priority sequence from available Hard Drives.

3.7 Security Settings



Change Supervisor Password:

Install or Change the password.

Change User Password:

Install or Change the password.

Password Check:

[Setup]

[Always]

Setup: Check password while invoking setup.

Always: Check password while invoking setup a well as on each boot.

Boot Sector Virus Protection:

[Disabled]

[Enabled]

Enabled / Disabled Boot Sector Virus Protection.

Type the password with up to 6 characters and then press ⋖Enter⋗ key. This will

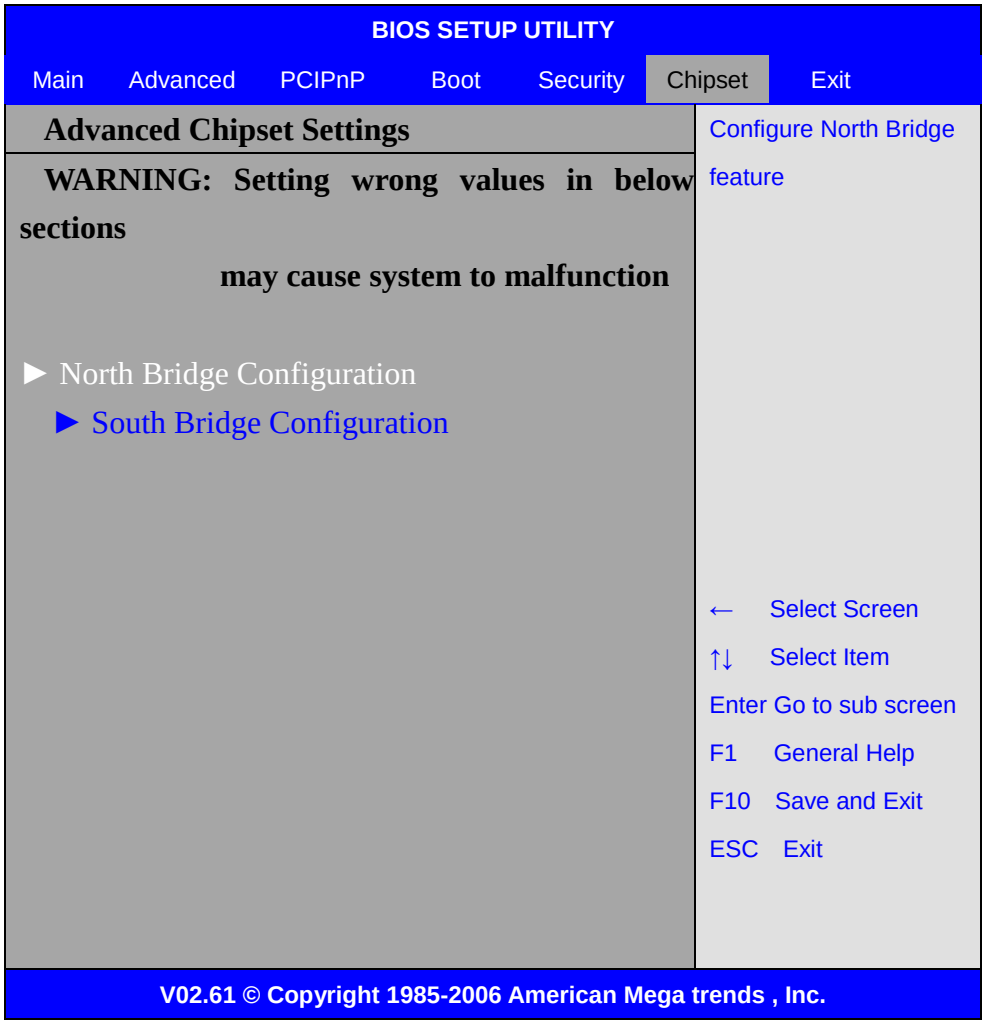
clear all previously typed CMOS passwords. You will be requested to confirm the password. Type the password again and press ⋖Enter⋗ key. You may press ⋖Esc⋗ key to abandon password entry operation.

To clear the password, just press ⋖Enter⋗ key when password input window pops up. A confirmation message will be shown on the screen as to whether the password will be disabled. You will have direct access to BIOS setup without typing any password after system reboot once the password is disabled.

Once the password feature is used, you will be requested to type the password each time you enter BIOS setup. This will prevent unauthorized persons from changing your system configurations.

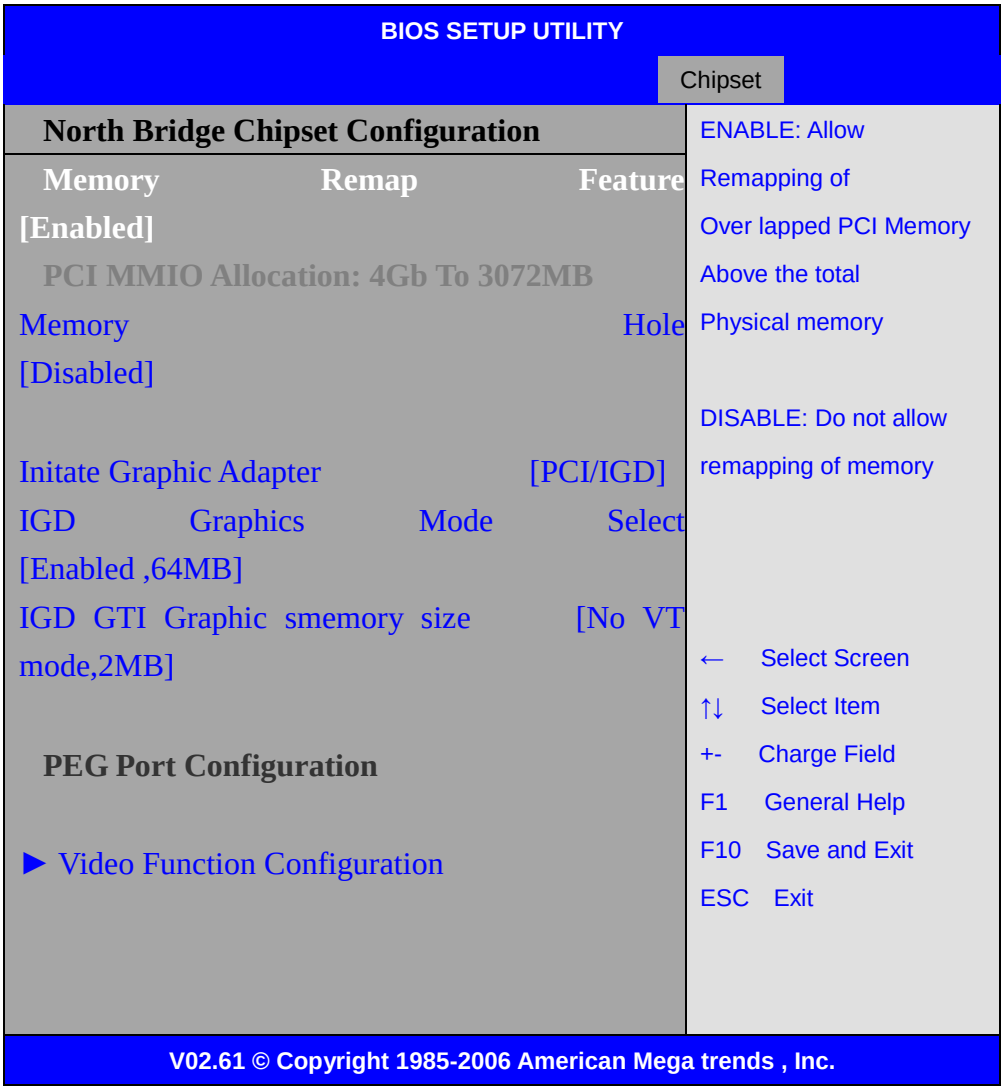
Also, the feature is capable of requesting users to enter the password prior to system boot to control unauthorized access to your computer. Users may enable the feature in Security Option of Advanced BIOS Features. If Security Option is set to System, you will be requested to enter the password before system boot and when entering BIOS setup; if Security Option is set to Setup, you will be requested for password for entering BIOS setup.

3.8 Advanced Chipset Settings



Note: Due to limited address length of BIOS, only a portion of panel parameters are listed in BIOS Setup. If the connected panel is not included in the parameter list, display problem will occur. In this case, Please do not change BIOS setup.

3.8.1 North Bridge Configuration



Memory Remap Feature:

[**Enabled**]
[Disabled]

Memory Hole:

[Disabled]
[15MB-16MB]

Initate Graphic Adapter:

Select which graphics controller to use as the primary boot device.

[PCI/IGD]

[IGD]

IGD Graphics Mode Select:

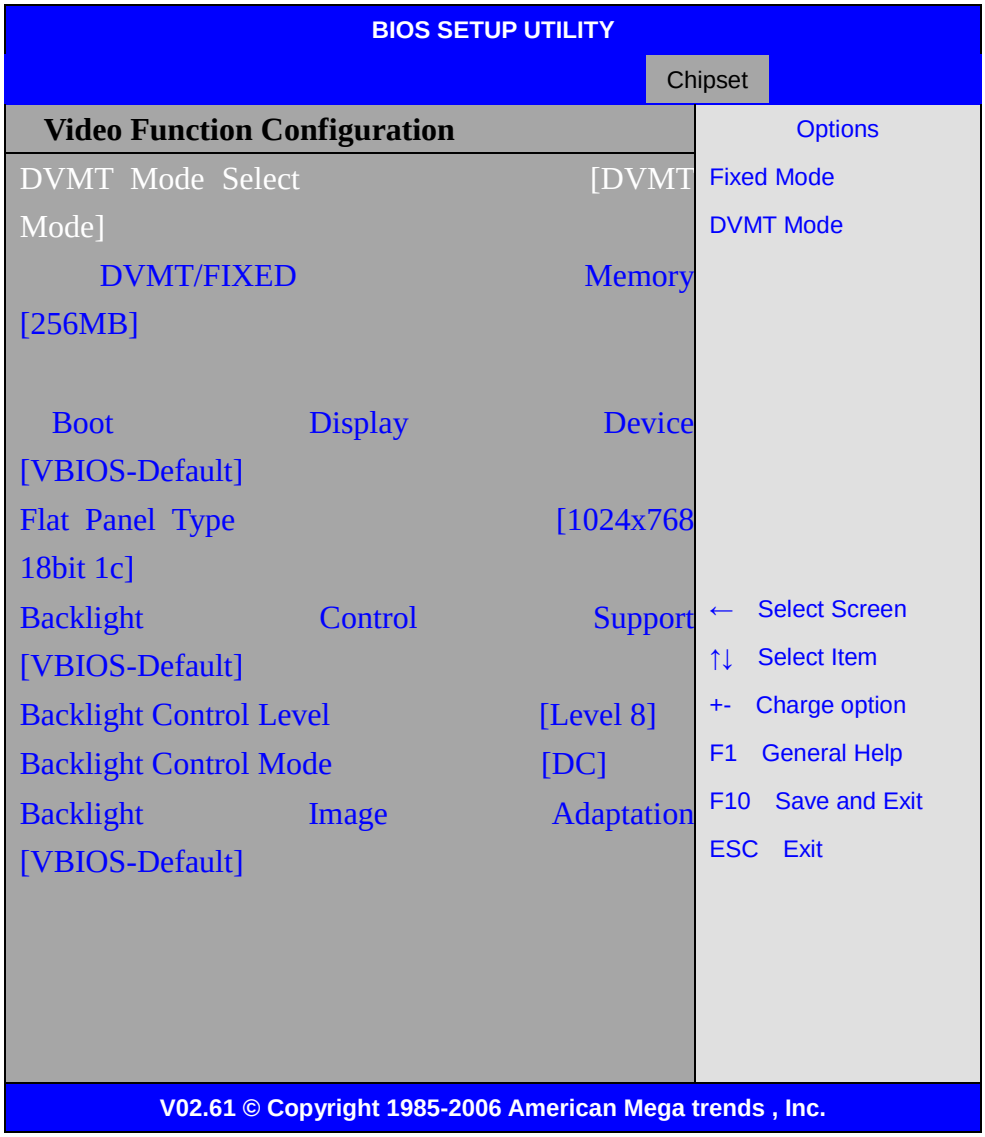
[**Enabled, 64MB**]

[Disabled]

[Enabled, 32MB]

[Enabled, 128MB]

Video Function Configuration:



DVMT Mode Select:

[**DVMT Mode**]
[FIXED Mode]

DVMT/FIXED Memory Size**:**
[**256MB**]
[128MB]
[Maximum DVMT]

Boot Display Device:
[**VBIOS-Default**]
[CRT]
[LVDS]
[CRT + LVDS]

Flat Panel Type:
[1024x 768 18bit 1ch]
[640x480 18bit 1ch]
[800x480 18bit 1ch]

[800x600 18bit 1ch]
[1280x800 18bit 1ch]
[1366x768 18bit 1ch]
[1024x768 24bit 2ch]
[1280x1024 24bit 2ch]
[1440x900 24bit 2ch]
[1600x900 24bit 2ch]
[1680x1050 24bit 2ch]
[1920x1080 24bit 2ch]

Backlight Control Support
[VBIOS-Default]
[Both BLC & BIA Disabled]
[BLC Enabled]

Backlight Control Control:
[Level8]
[Level0]
[Level1]
[Level2]
[Level3]
[Level4]

[Level6]
[Level7]
[Level9]
[Level10]
[Level11]
[Level12]
[Level13]
[Level14]
[Level15]

Note: Panel support PWM Function.

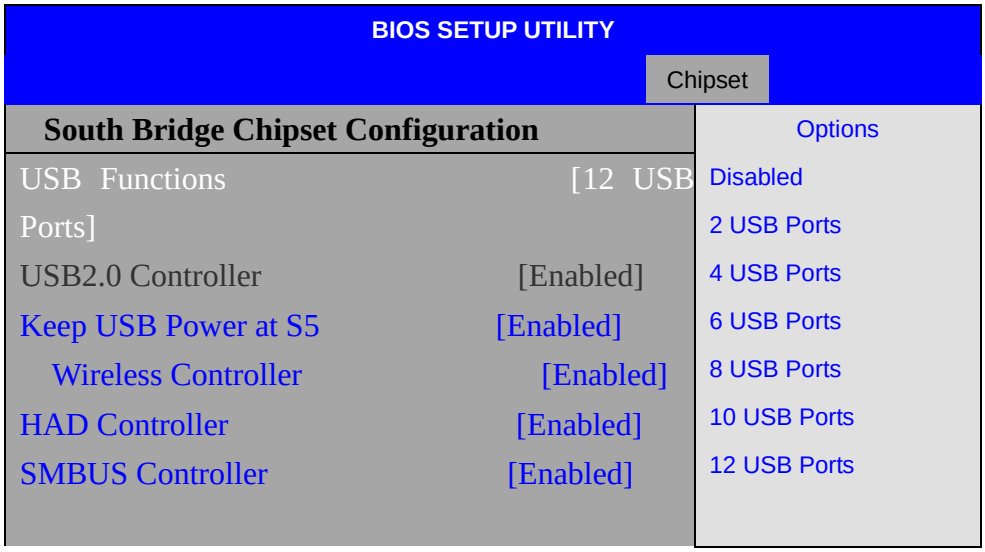
Backlight Control Mode:

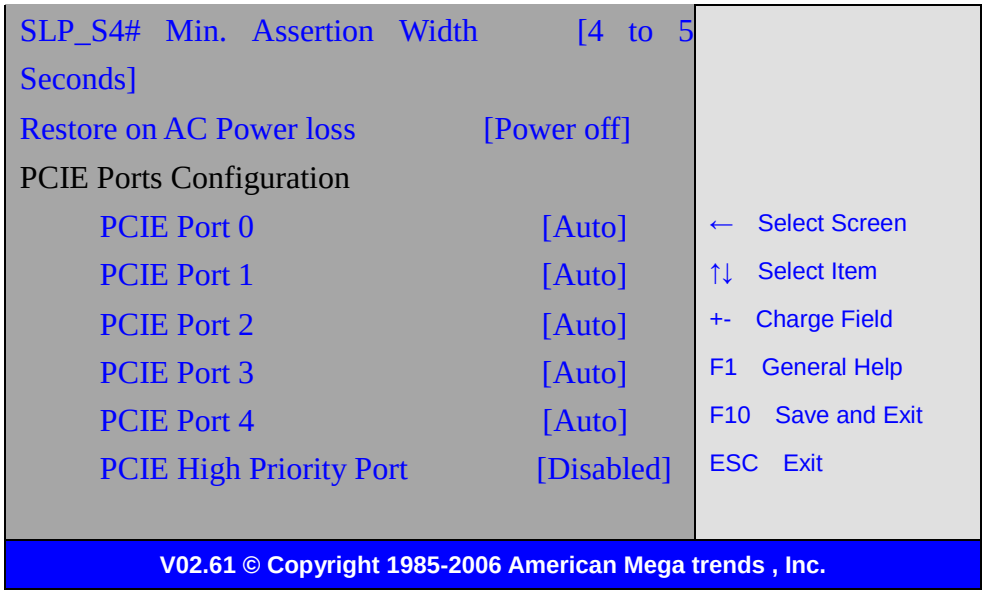
[DC]
[PWM]

Backlight Image Adaptation:

[VBIOS-Default]
[BIA Disabled]
[BIA Enabled at Level1]
[BIA Enabled at Level2]
[BIA Enabled at Level3]
[BIA Enabled at Level4]
[BIA Enabled at Level5]

3.8.2 South Bridge Configuration:





USB Functions:

[12 USB Ports]
[Disabled]，
[2 USB Ports]
[4 USB Ports]
[6 USB Ports]
[8 USB Ports]
[10 USB Ports]

USB 2.0 Controller:

[**Enabled**]

Keep USB Power at S5:

[Enabled]
[Disabled]

Wireless Controller

[Enabled]
[Disabled]

HDA Controller:

[**Enabled**]
[Disabled]

SMBUS Controller:

[**Enabled**]
[Disabled]

SLP_S4# Min. Assertion Width:

[4 to 5 Seconds]
[3 to 4 Seconds]
[2 to 3 Seconds]
[1 to 2 Seconds]

Restore on AC Power Loss:

[Power Off]
[Power On]
[Last Status]

PCIE Ports Configuration:

PCIE Port 0:

[Auto]
[Enabled]
[Disabled]

PCIE Port 1:

[Auto]
[Enabled]
[Disabled]

PCIE Port 2:

[Auto]
[Enabled]
[Disabled]

PCIE Port 3:

[Auto]
[Enabled]
[Disabled]

PCIE Port 4:

[Auto]
[Enabled]
[Disabled]

PCIE High priority Port:

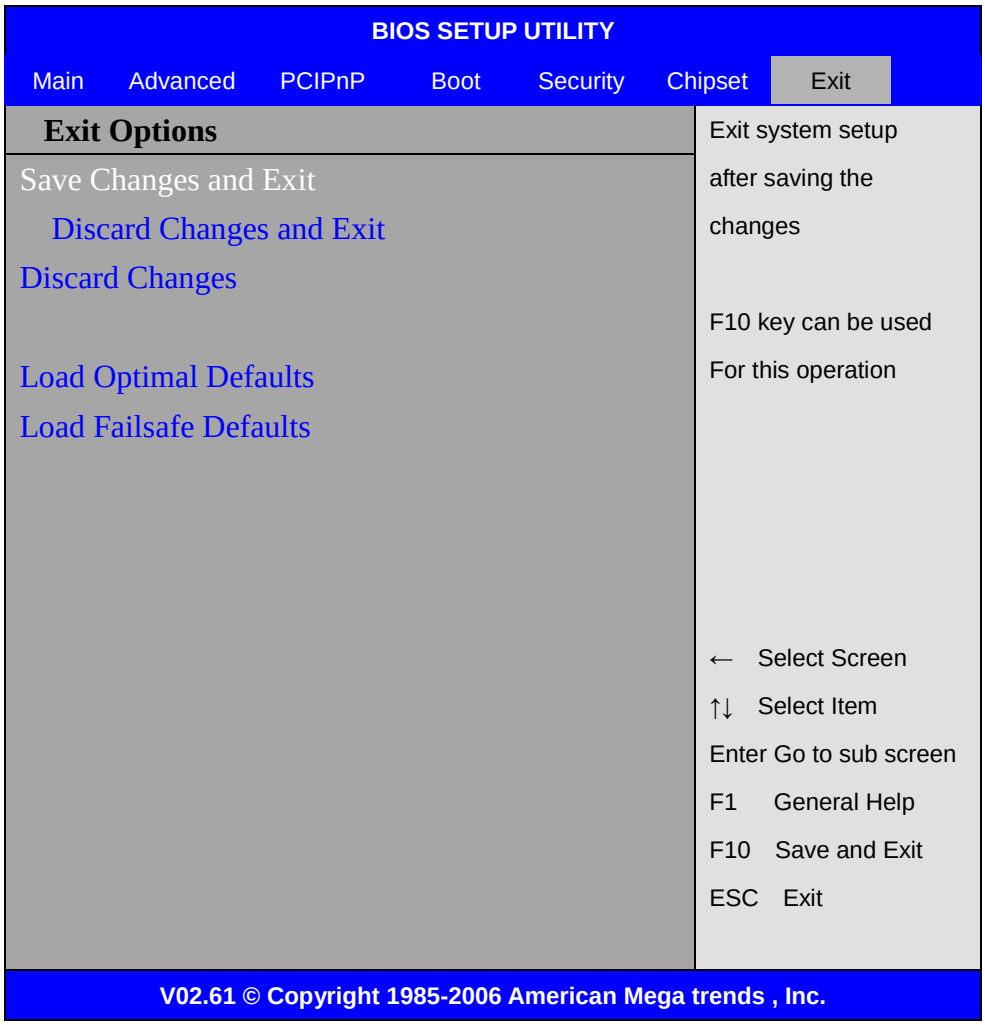
[Disabled]
[Port 0]
[Port1]
[Port2]

[Port3]
[Port4]
[Port5]

PCIE Port 0 IOxAPIC Enabled:
PCIE Port 1 IOxAPIC Enabled:
PCIE Port 2 IOxAPIC Enabled:
PCIE Port3 IOxAPIC Enabled:
PCIE Port4 IOxAPIC Enabled:
PCIE Port5 IOxAPIC Enabled:

[Disabled]
[Enabled]

3.9 Exit Options



Save Changes and Exit:

Save configuration changes and exit setup?

(F10 key can be used for this operation)

[OK]

[Cancel]

Discard Changes and Exit:

Discard Changes and Exit setup?

(ESC key can be used for this operation)

[OK]

[Cancel]

Discard Changes:

Discard changes?

(F7 key can be used for this operation)

[OK]

[Cancel]

Load Optimal Defaults:

Load Optimal Defaults?

(F9 key can be used for this operation)

[OK]

[Cancel]

Load FailSafe Defaults:

Load FailSafe Defaults?

(F9 key can be used for this operation)

[OK]

[Cancel]

Chapter 4 Installation of Drivers

This chapter describes the installation procedures for software and drivers under the windows XP. The software and drivers are included with the motherboard. The contents include **Intel GM45/ICH9M Chipset Driver, Intel(R) VGA Chipset Driver, Intel(R) Network Adapter, Realtek ALC662 Audio Codec Driver, Microsoft .NET Framework 3.5 Service, Touch Panel Driver.**
Installation instructions are given below.

Important Note:
After installing your Windows operating system (Windows XP), you must install first the Intel Chipset Software Installation Utility before proceeding with the installation of drivers.

4.1 Intel Chipset Driver

To install the Intel chipset driver, please follow the steps below.

Step 1. Access driver list as shown below. Select **Intel GM45/ICH9M Chipset Driver** from the list

Step 2. Click **Next** to set up program.

Step 3. Click **Yes** to accept all of the terms of the license agreement.

Step 4. Click **Next** to continue.

Step 5. Click **Next**.

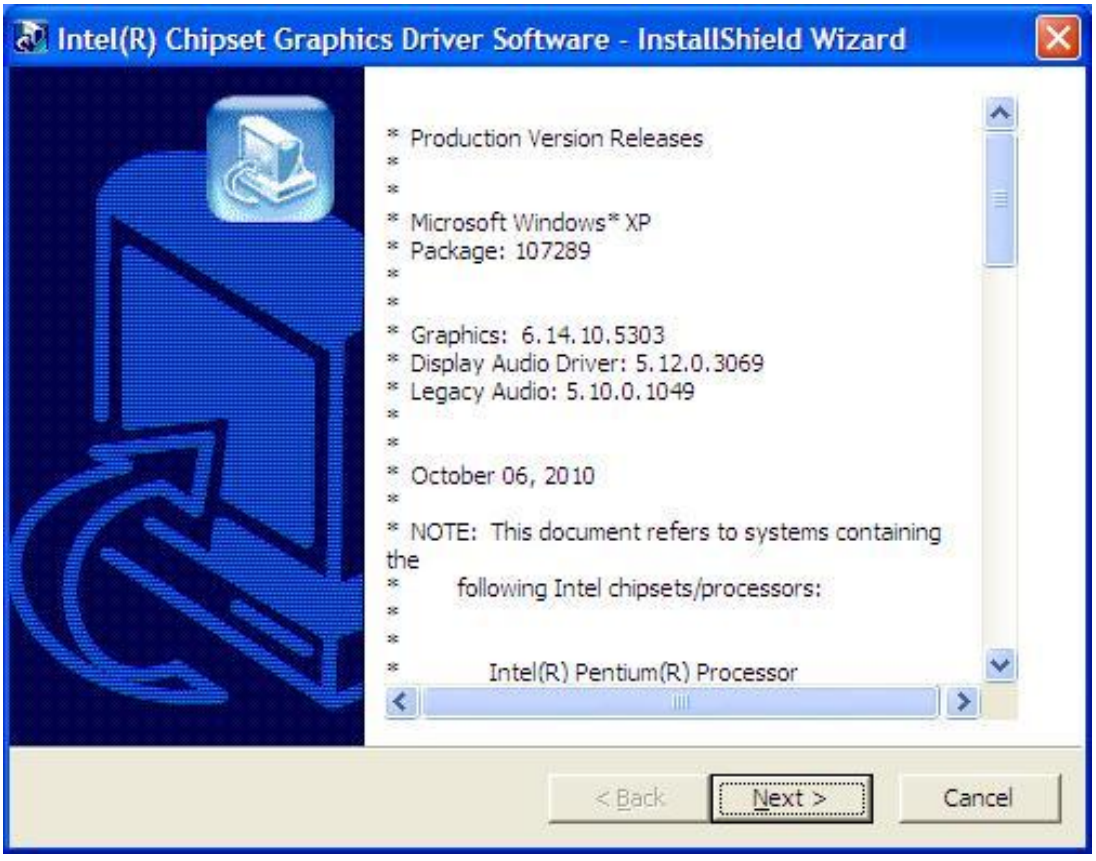
Step 6. Select **Yes, I want to restart this computer now**. to restart the computer. Click **Finish**, then remove any installation media from the drives.

4.2 Intel(R) VGA Chipset Driver

To install the VGA driver, follow the steps below to proceed with the installation.

Step 1. Select **Intel(R) VGA Chipset Driver**.

Step 2. Click **Next** to continue the set up program.

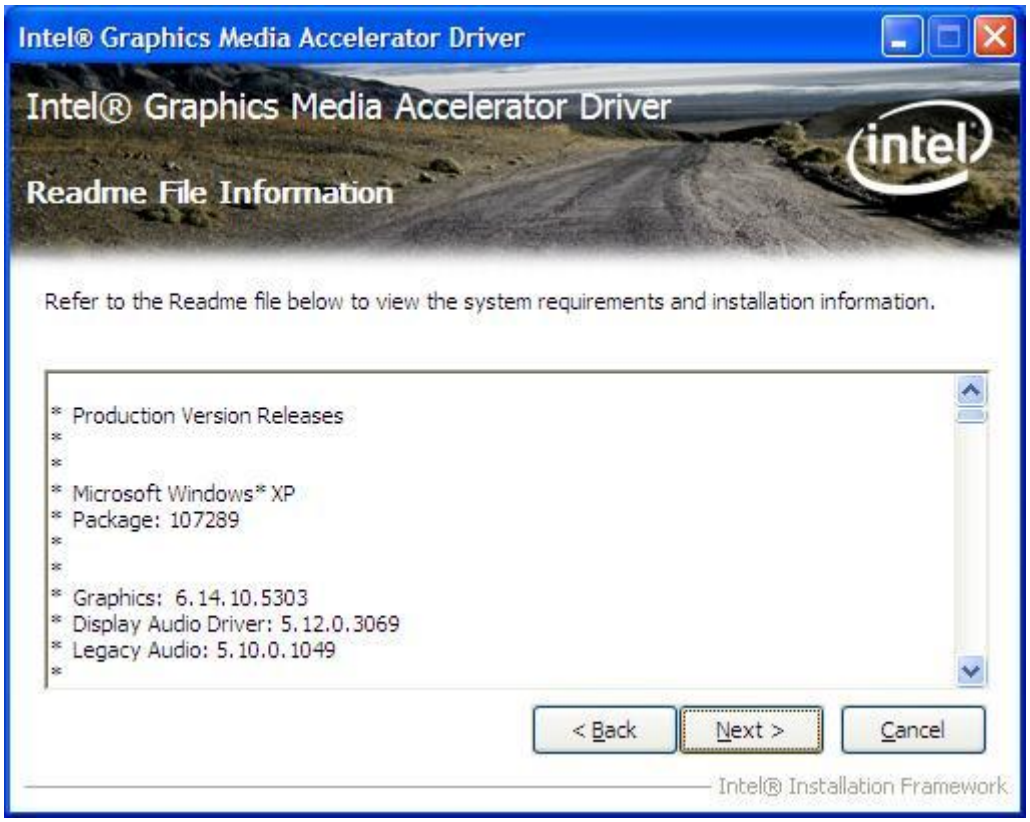


Step 3. Click **Yes** to continue.

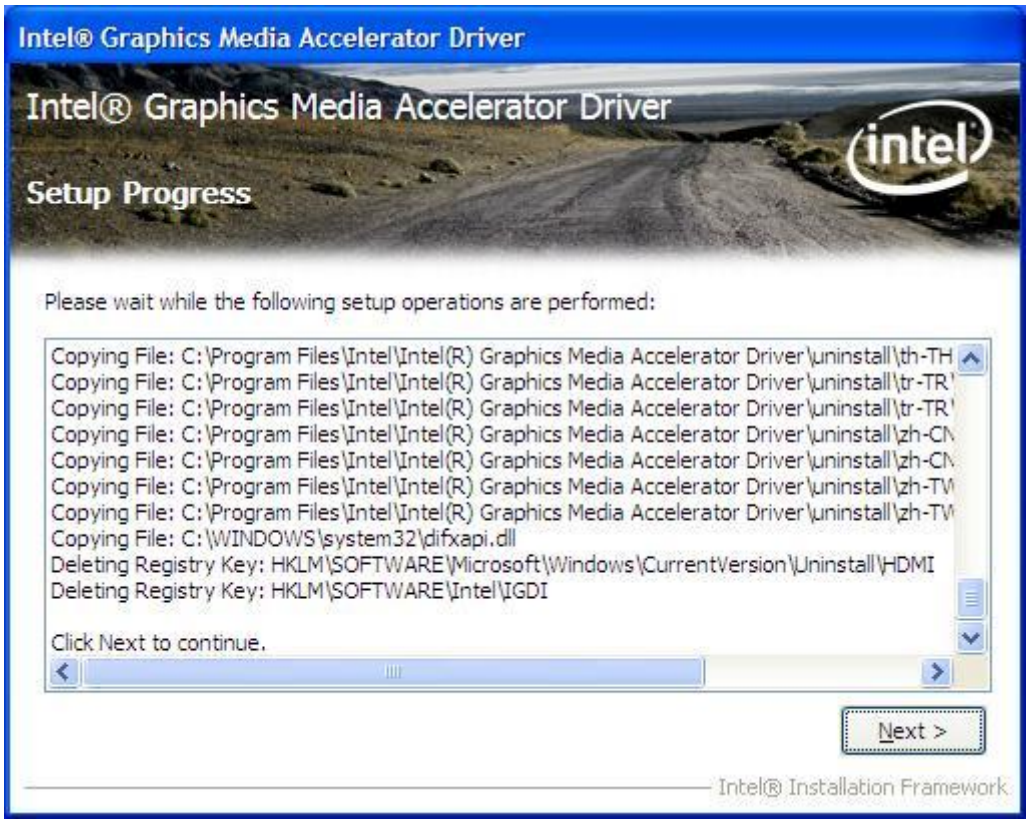
Step 4. Click **Next**.

Step 5. Read the license agreement. Click **Yes** to accept all of the terms of the license agreement.

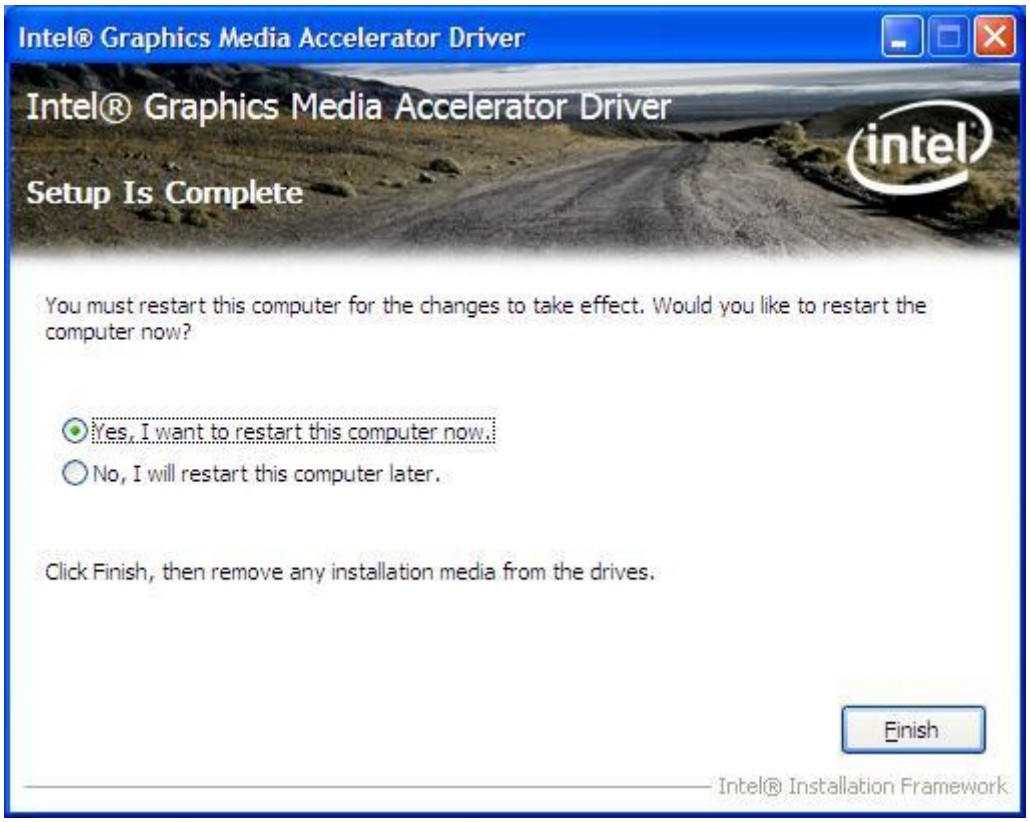
Step 6. Readme File Information screen appears. Click **Next** to continue.



Step 7. Click **Next**.



Step 8. Select **Yes, I want to restart this computer now.** to restart the computer. Click **Finish** to complete installation.

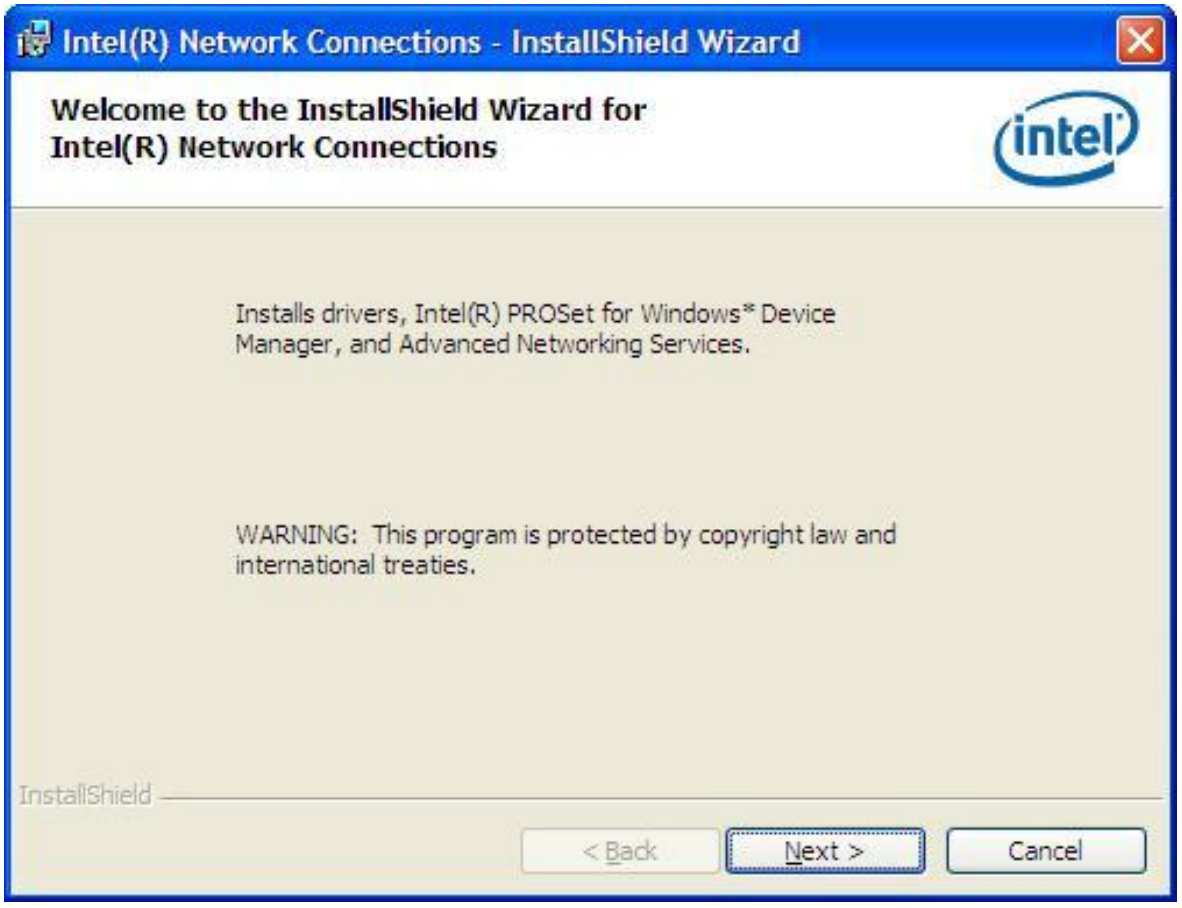


4.3 Intel(R) Network Adapter

To install Intel (R) Network Adapter device driver, please follow the steps below.

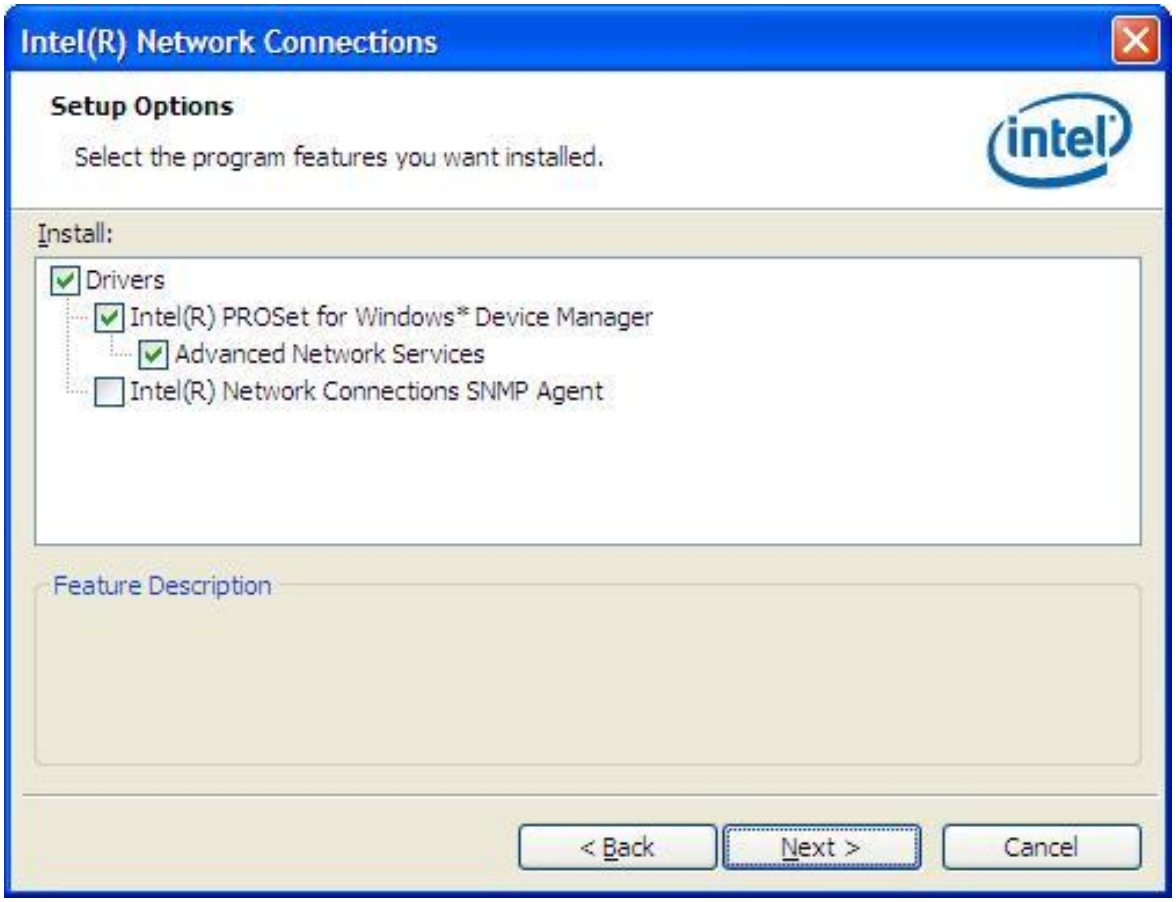
Step 1. Select **Intel(R) Network Adapter** from the list

Step 2. Click **Next** to continue the installation.

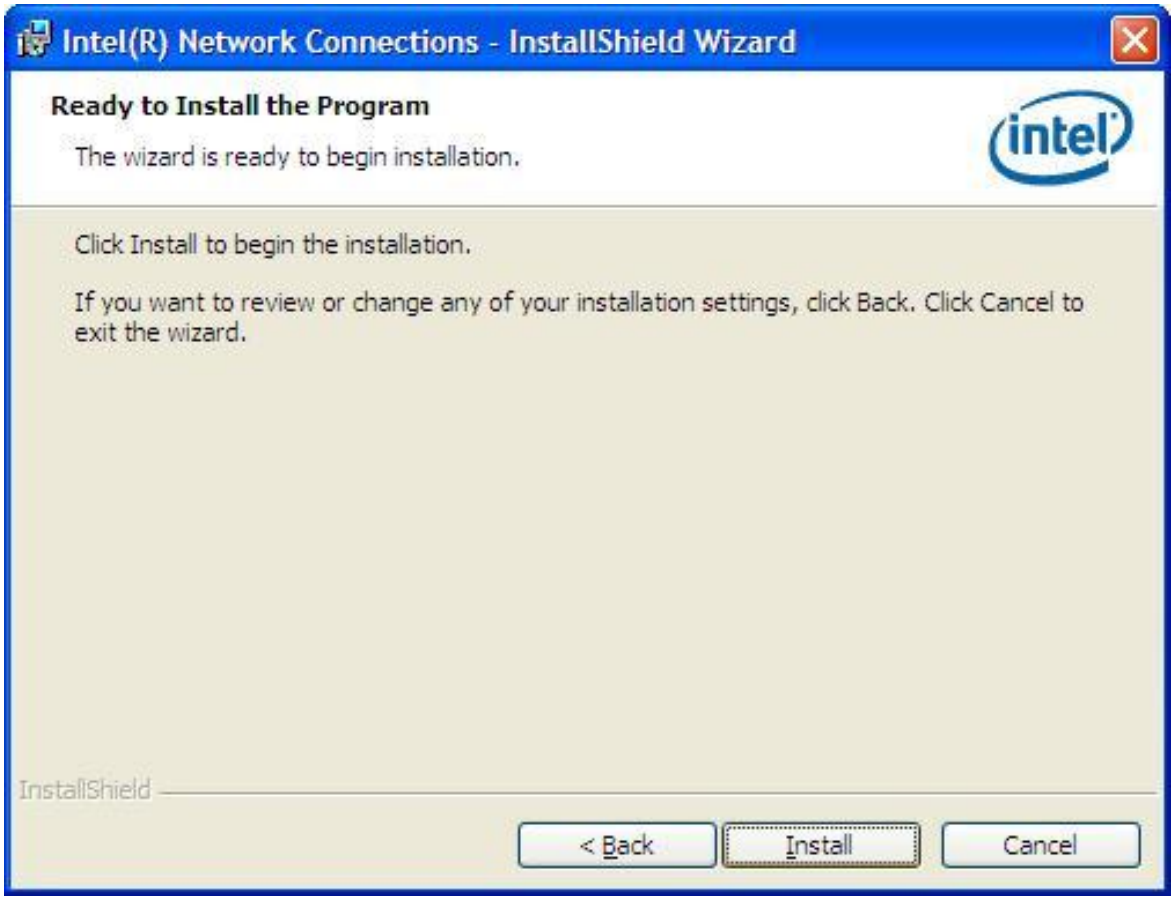


Step 3. Select **I accept the terms in the license agreement**.

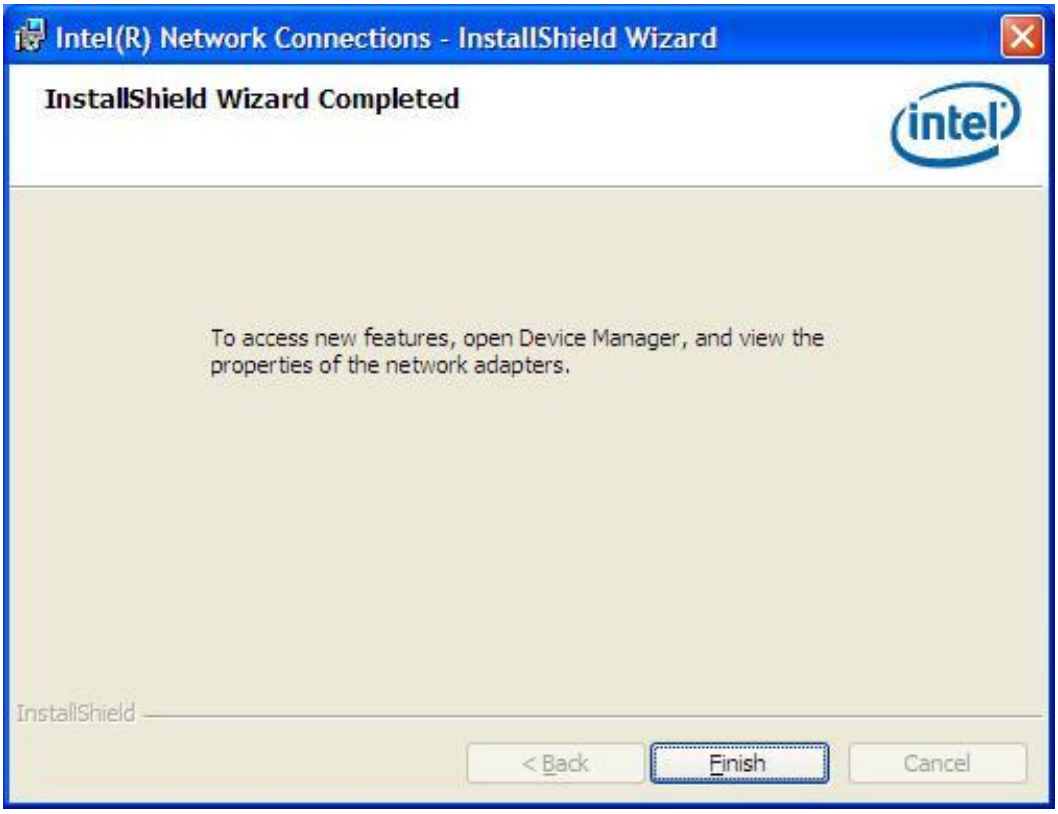
Step 4. Tick **Drivers, Intel(R) PROSet for Windows* Device Manager, Advanced Network Services**. Click **Next** to continue the installation.



Step 5. Click **Install** to begin installation.



Step 6. Click **Finish** to complete the installation.

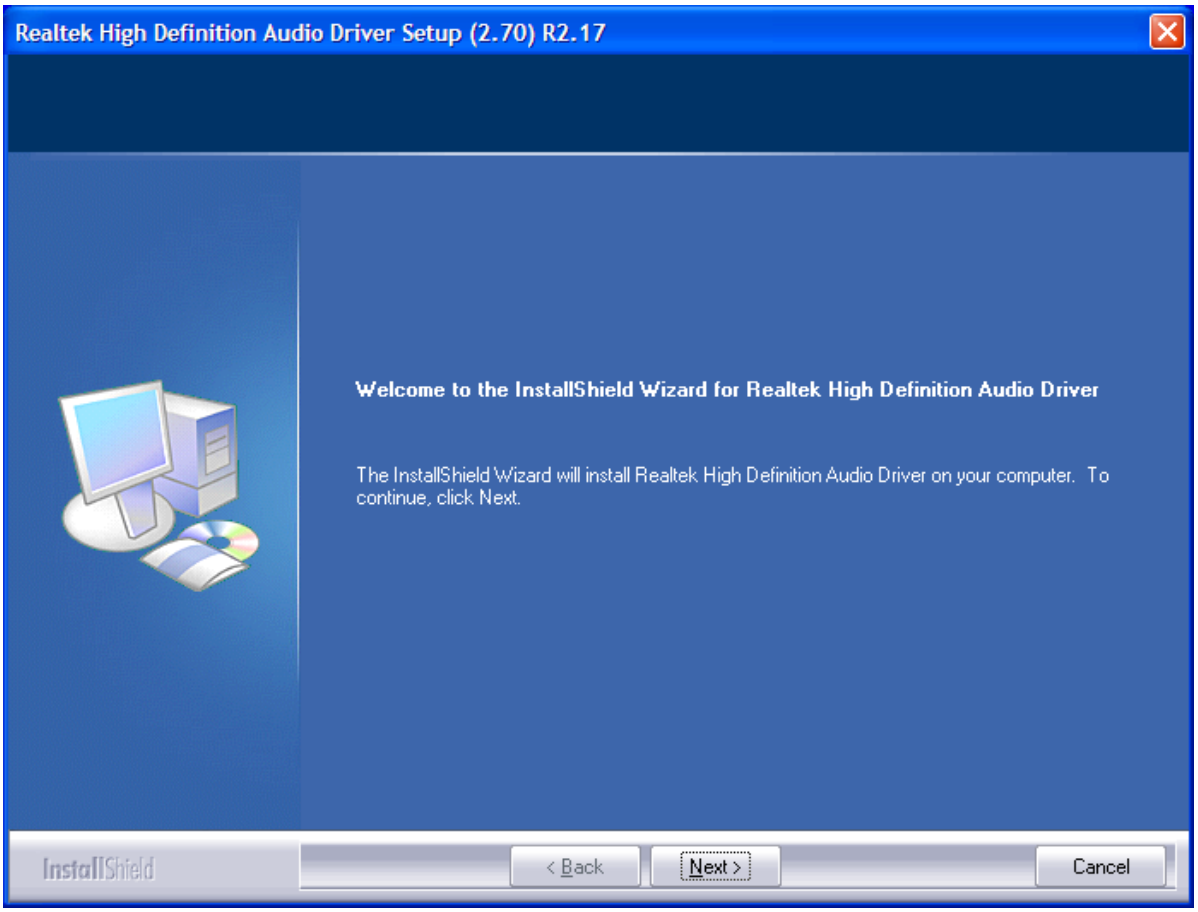


4.4 Realtek Audio Driver Installation

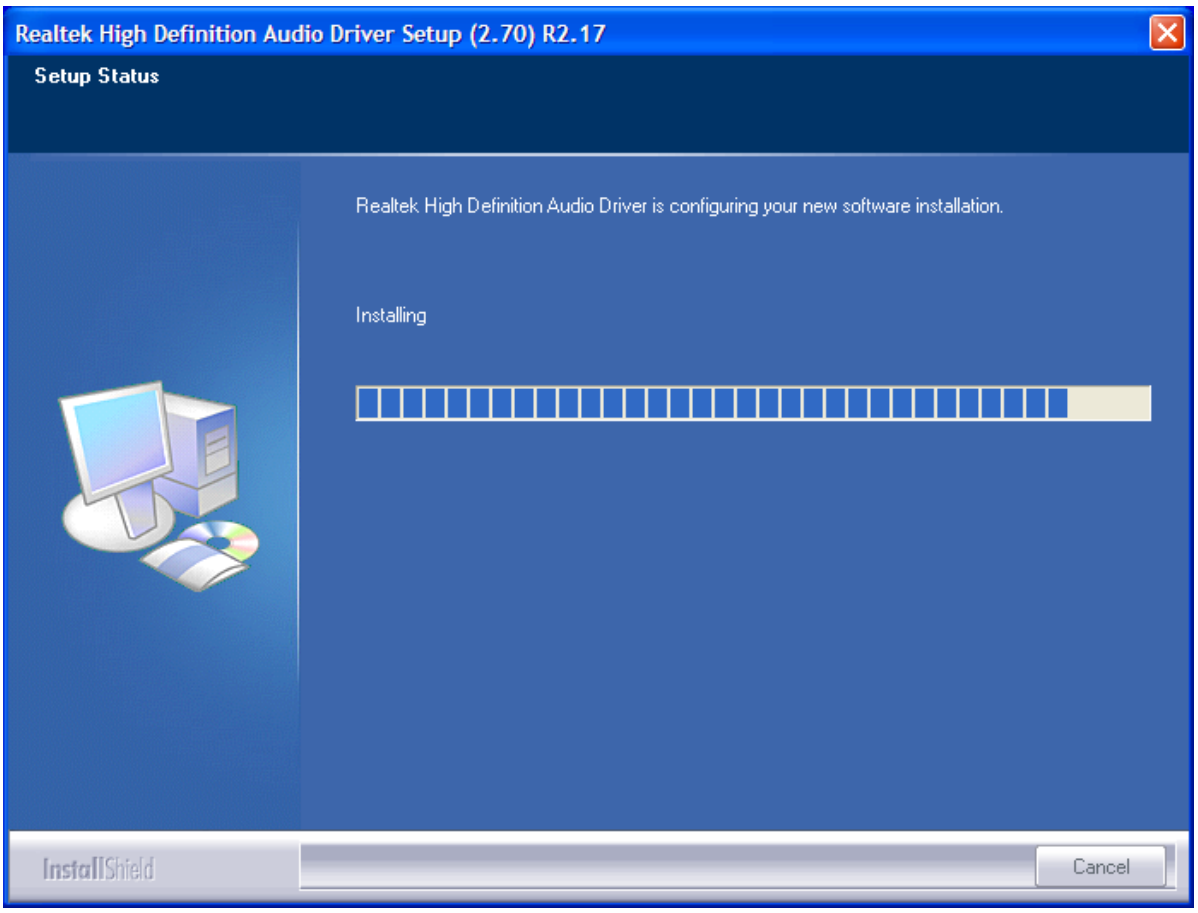
To install the Realtek ALC662 Audio Codec Driver, please follow the steps below.

Step 1. Access the driver list as shown below. Select **Realtek ALC662 Audio Codec Driver**.

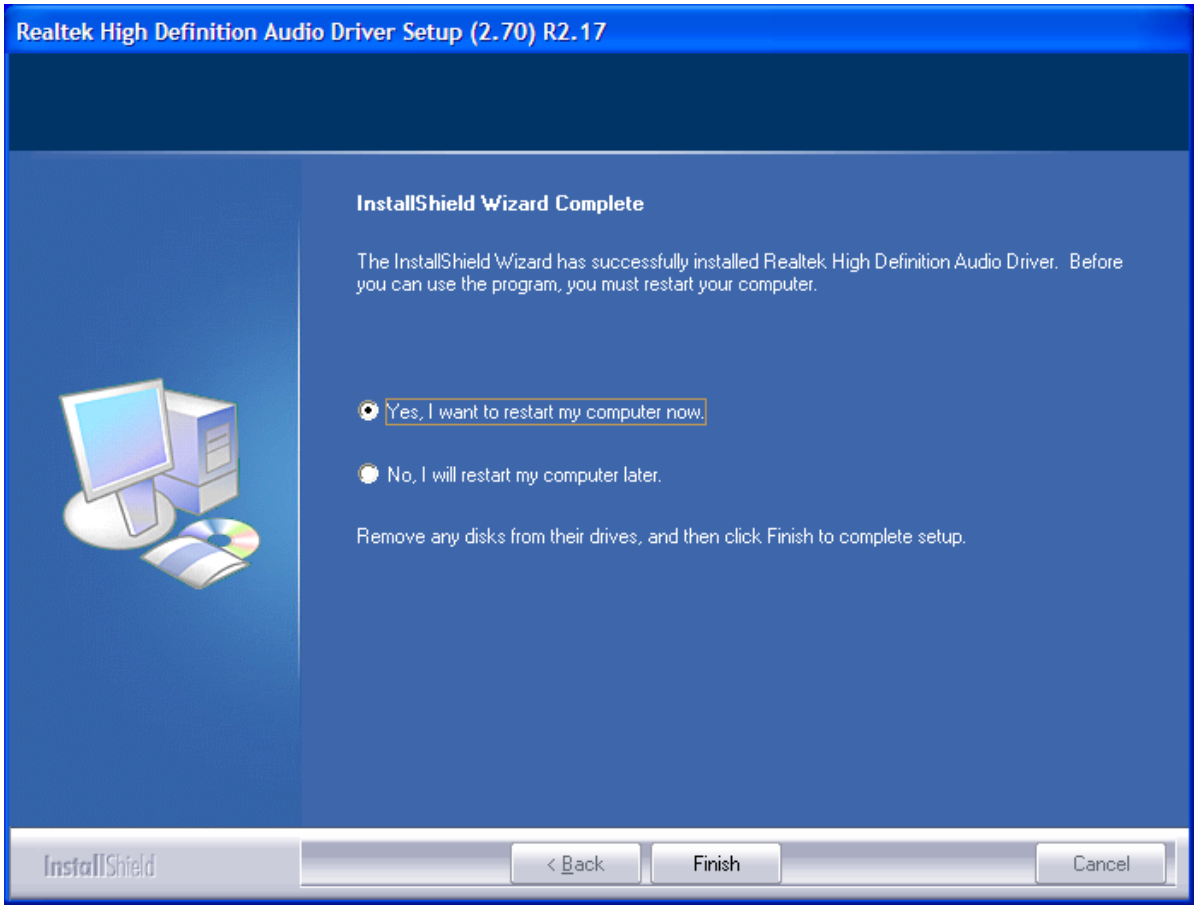
Step 2. Click **Next.**



Step 3. The installation files are extracted..



Step 4. Select **Yes, I want to restart my computer now.** and click **Finish.** The system reboots.



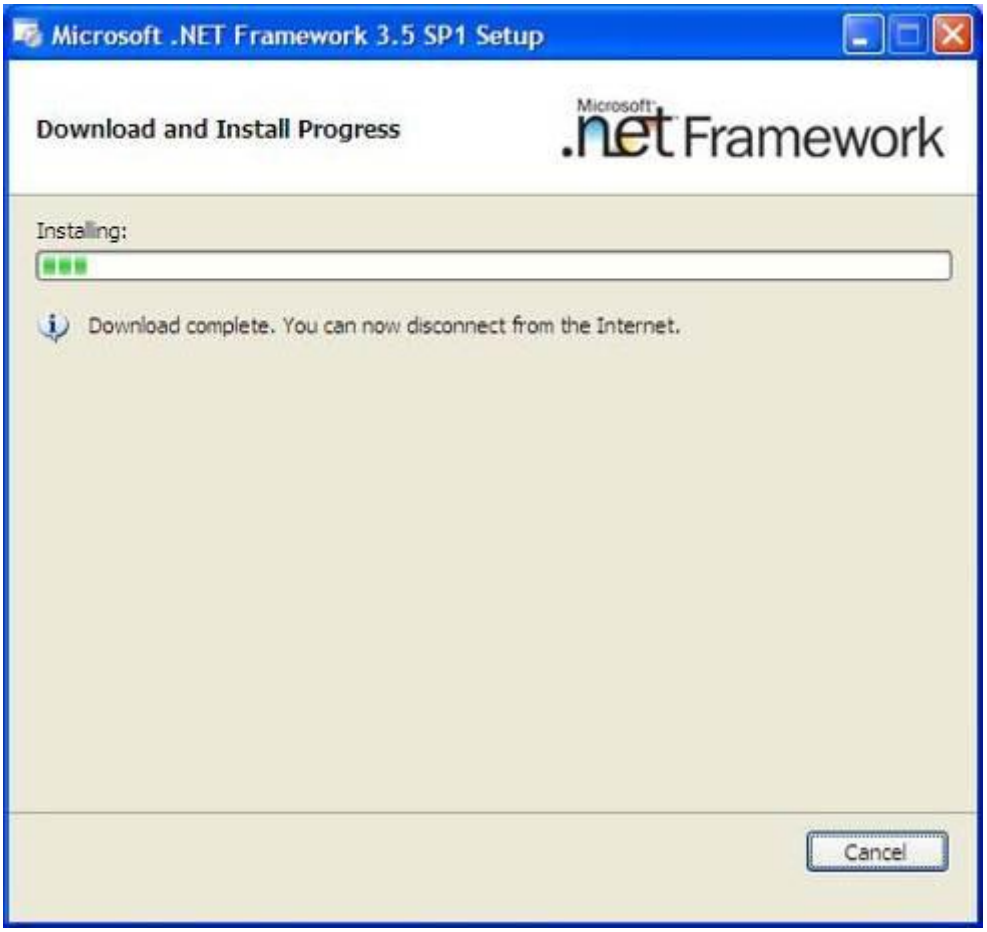
4.5 Microsoft .NET Framework 3.5 Service Installation

To install the Microsoft .NET Framework 3.5 Service, please follow the steps below.

Step 1. Access the driver list as shown below. Select **Microsoft .NET Framework 3.5 Service.**

Step 2. Select **I have read and ACCEPT the terms of the License Agreement.** Click Install to continue.

Step 3. The installation can be monitored in the progress bar shown in below.



Step 4. When the driver installation is completed, click **Exit**.

Chapter 5 Touch Screen Installation

This chapter describes how to install drivers and other software that will allow your Controller Board to work with different operating systems.

5.1 Introduction to Touch Screen Controller Board

15” projected capacitive touch panel control board is a touch screen control board designed for USB interface and specific for touch screens. It is designed with USB interface features with multiple devices supporting function. It is designed for Projected Capacitive Touch Panel (PCAP) application; through glass touch sensing is ready for products that require a complete flat surface. It also can drive the touch panel to get two fingers touch function that based on the Windows 7 support.

Figure 5.1: Bird’s Eye View of Control Board

5.2 Windows 2000/XP/2003/Vista Universal Driver Installation

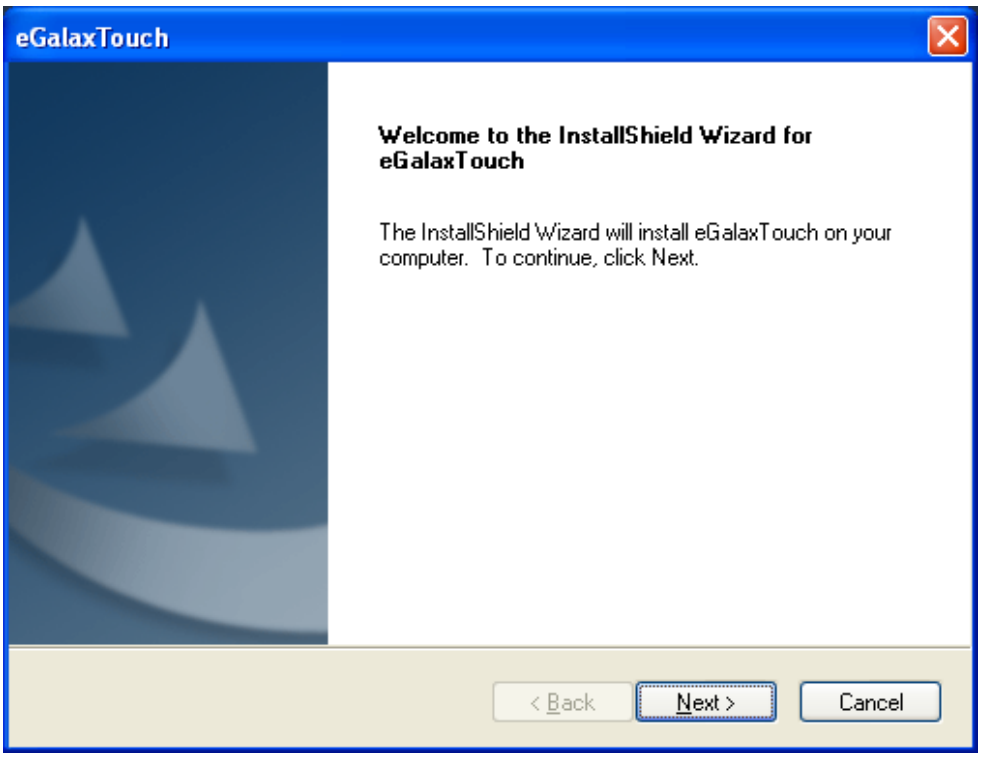
Before installing the Windows 2000/XP driver software, you must have the Windows 2000/XP system installed and running on your computer.

5.2.1 Installing Software

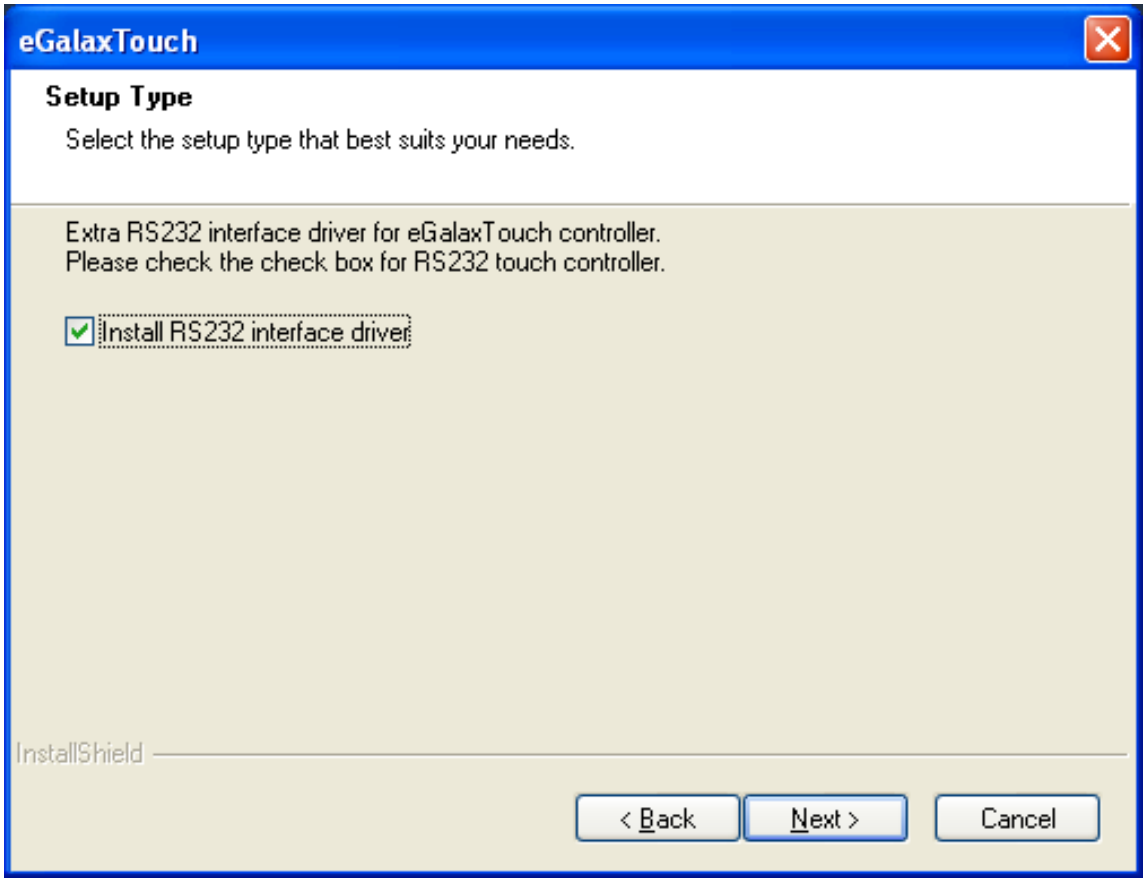
If you have an older version of the driver installed in your system, please remove it first. Follow the steps below to install the driver. Please make sure your USB controller device had plugged in advance. When the system first detects the controller board, a screen appears that shows “Unknown Device”. Do not use this hardware wizard. Press Cancel.

Insert the product CD install **setup.exe.** the screen below would appear. Click **Touch Panel Driver**

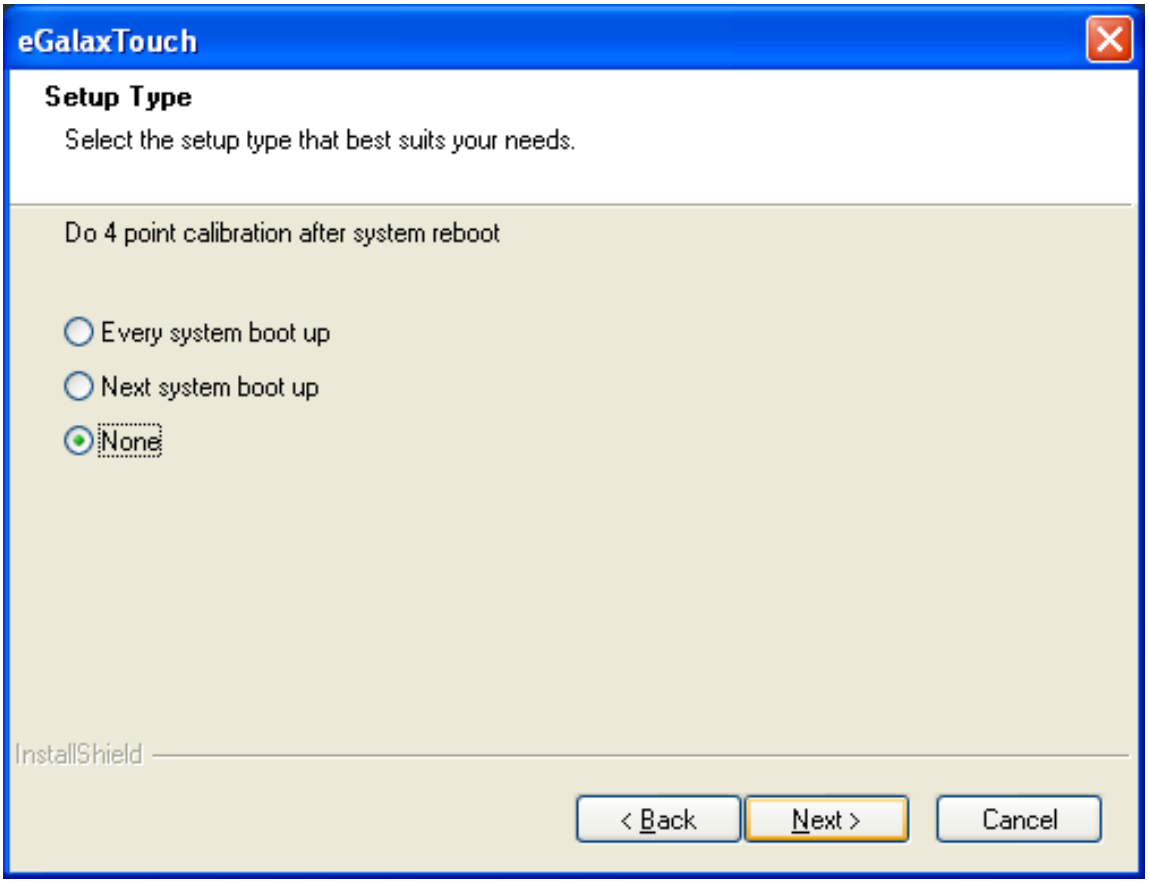
Step 1. Click **Next** to install eGalax Touch on your computer.



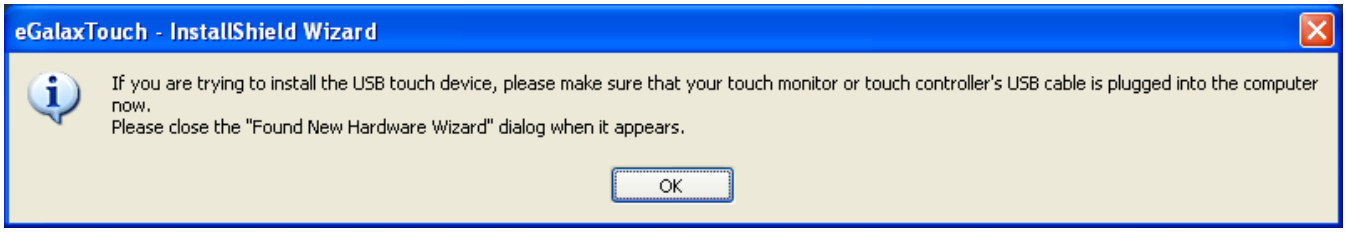
Step 2. Tick Install **RS232 interface driver**.



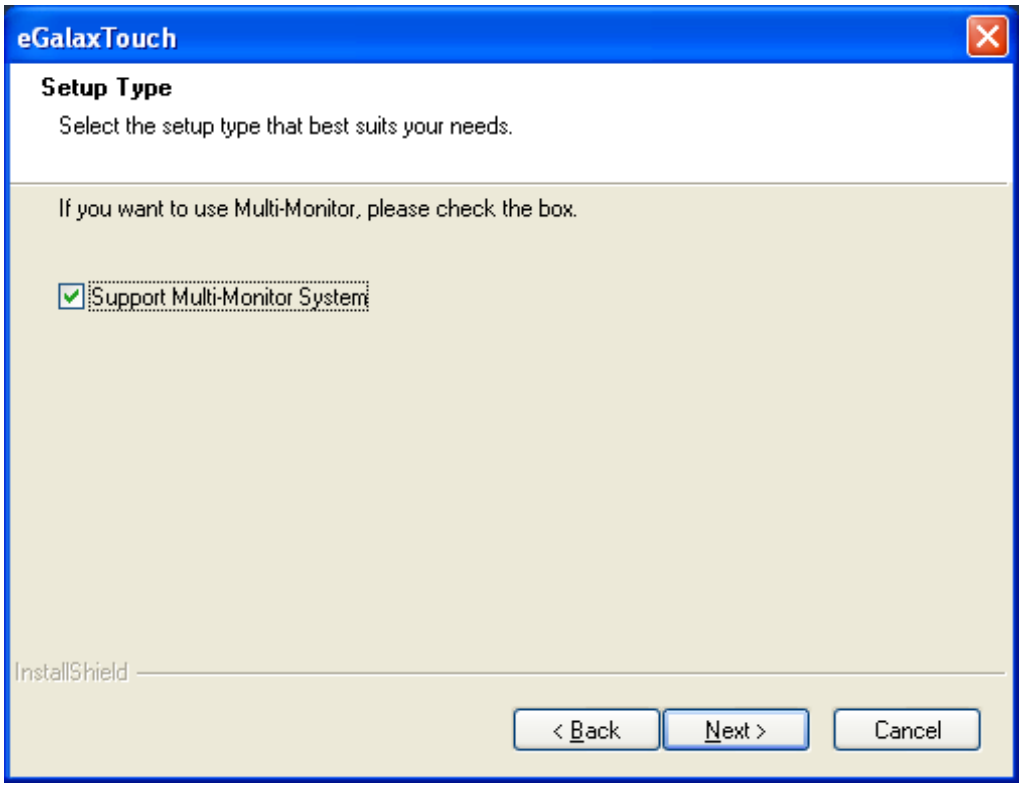
Step 3. Select None, then click **Next.**



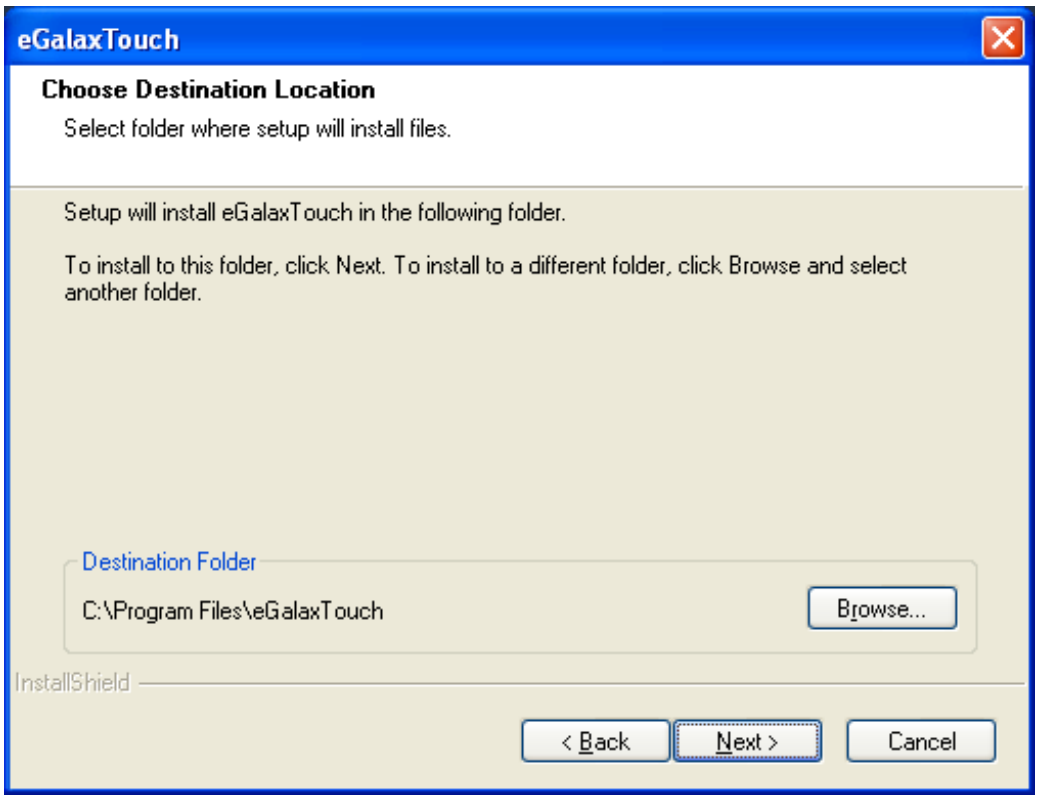
Step 4. There is a pop-up. Click **OK**.



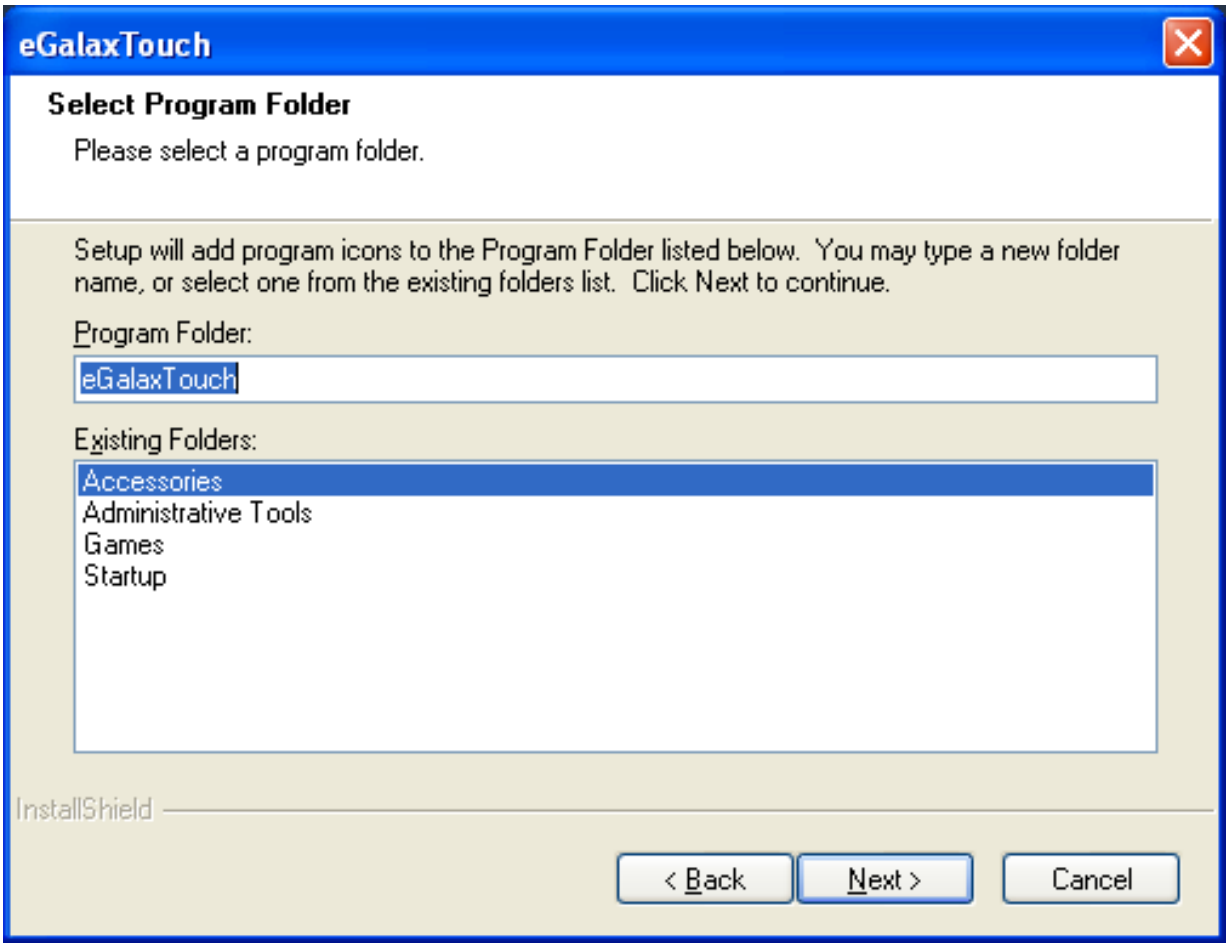
Step 5. Tick **Support Multi-Monitor System** and click **Next**.



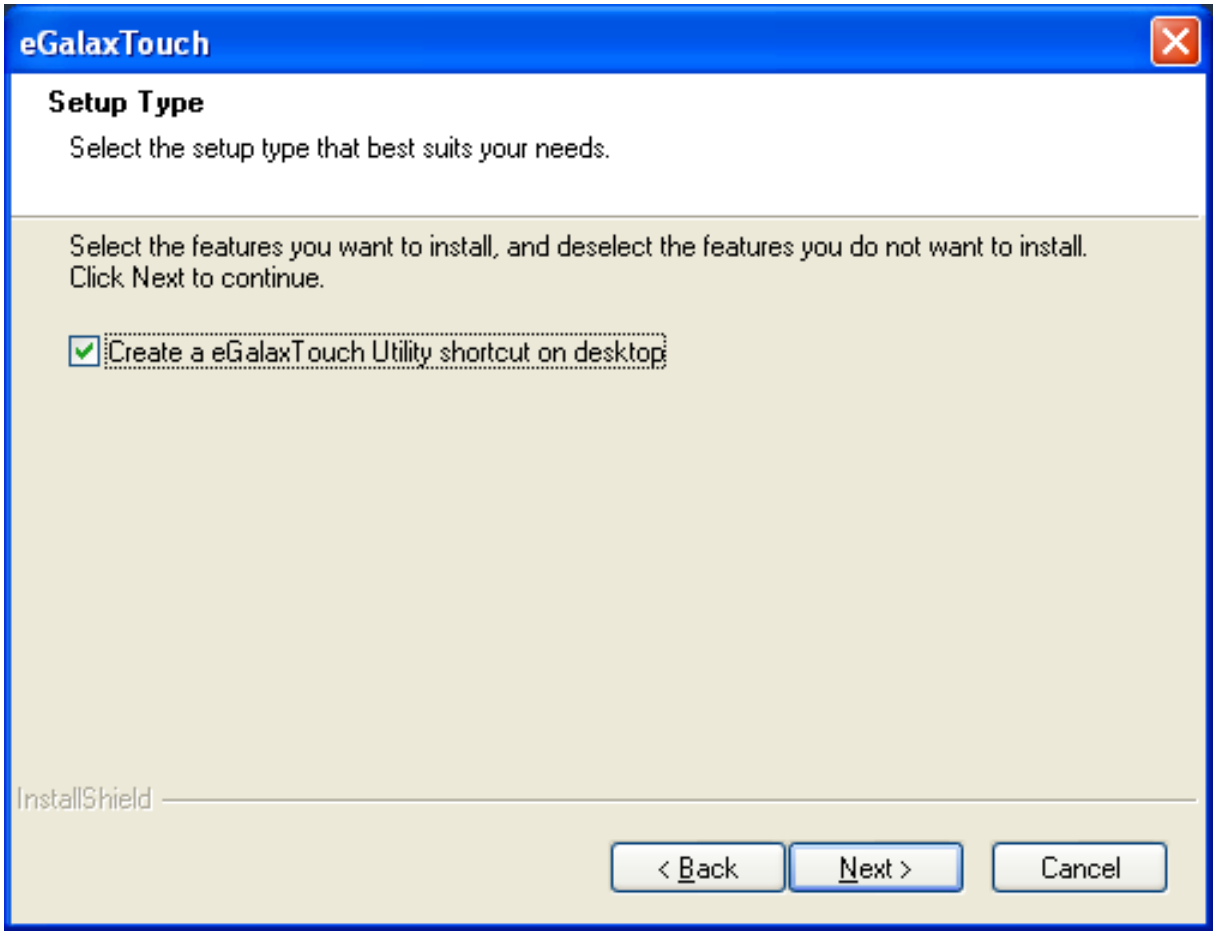
Step 6. Click **Browse** to create new folder. Click **Next** to continue settings.



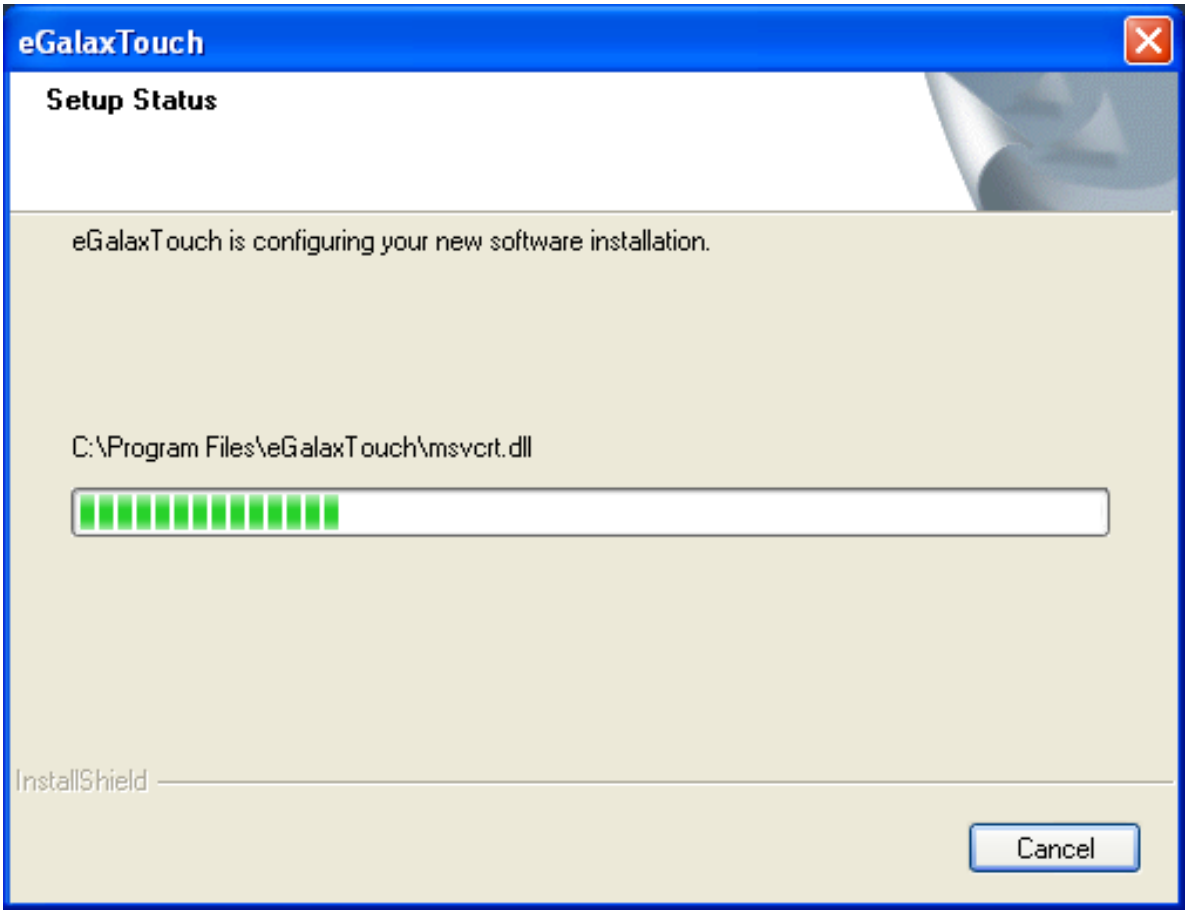
Step 7. Under **eGalaxTouch** folder, select **Accessories**. Click **Next** to continue.



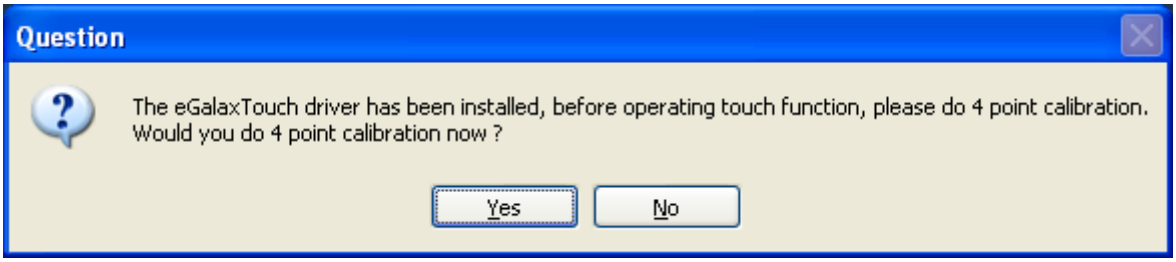
Step 8. Tick **Create a eGalaxTouch Utility shortcut on desktop**. Click **Next**.



Step 9. eGalaxTouch is configuring your new software installation.



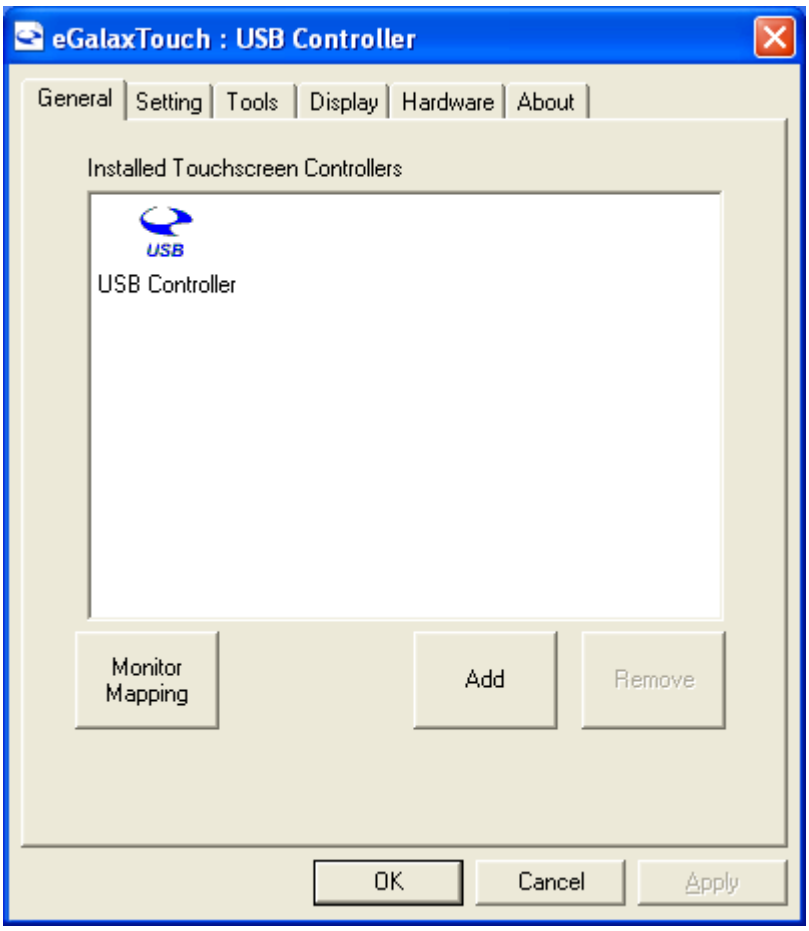
Step 10. Click **Yes** to do 4 point calibration.



5.2.2 Software Functions

General

In this window, you can see there is USB Controller. Click **OK** to continue.



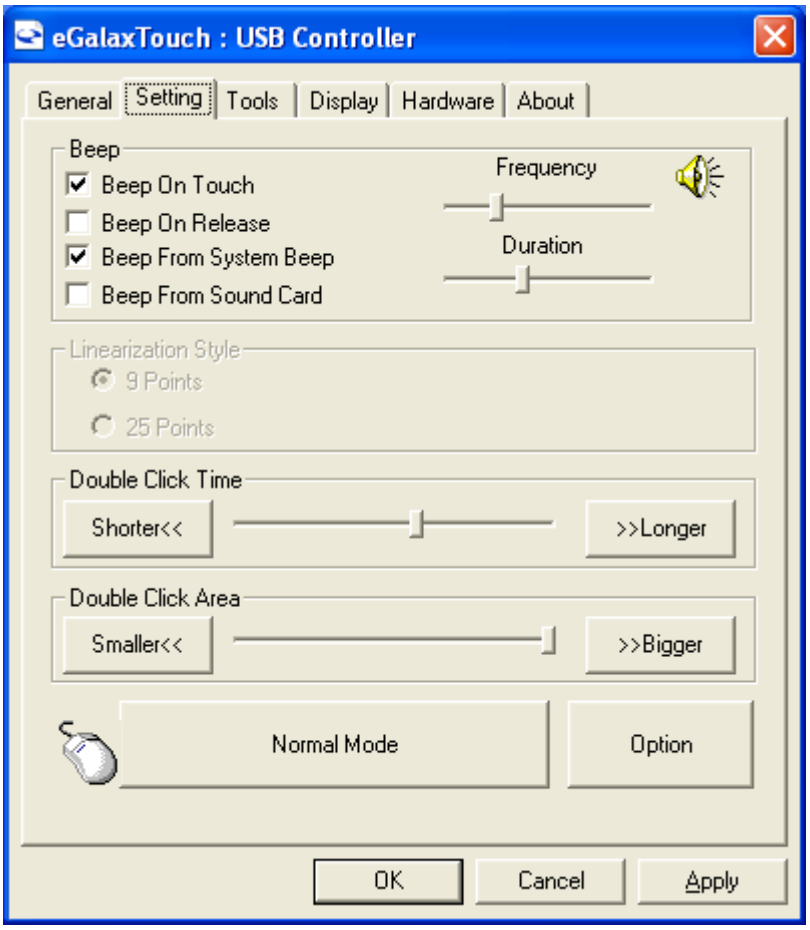
Monitor Mapping

to adjust the touch panel

Add

to search for the device

Setting



Beep

Beep On Touch

Beep On Release

Beep From System Beep

Beep From Sound Card

Linearization Style

9 points

25 points

Double Click Time

Shorter

Longer

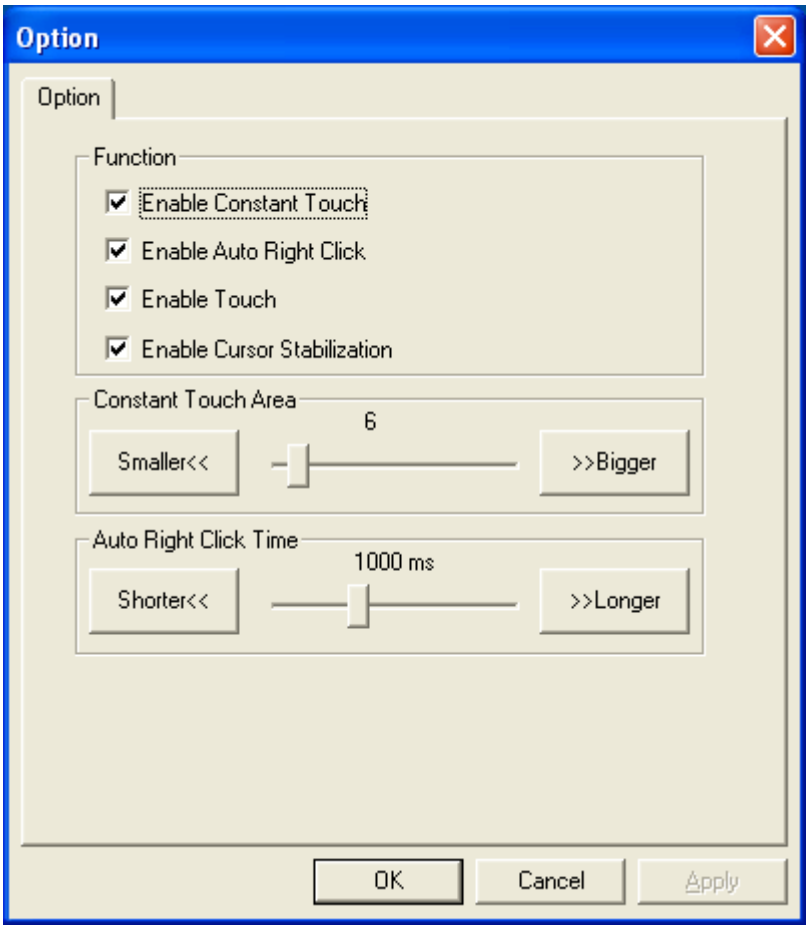
Double Click Area

Smaller

Bigger

Normal mode

Simulate the mouse mode



Option

Function

Enable Constant Touch

Enable Auto Right Click

Enable Touch

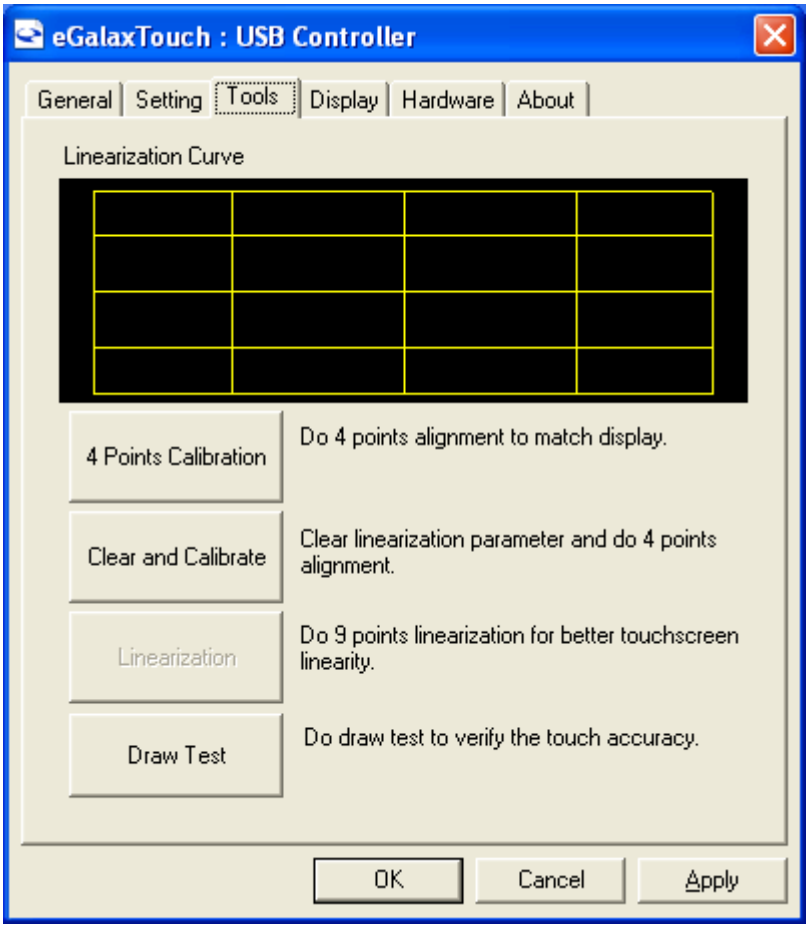
Enable Cursor Stabilization

Constant Touch Area

Auto Right Click Time

Tools

Click **OK** to continue the settings.



4 Points Calibration

Do 4 points alignment to match display.

Clear and Calibrate

Clear linearization parameter and do 4 points alignment.

Linearization

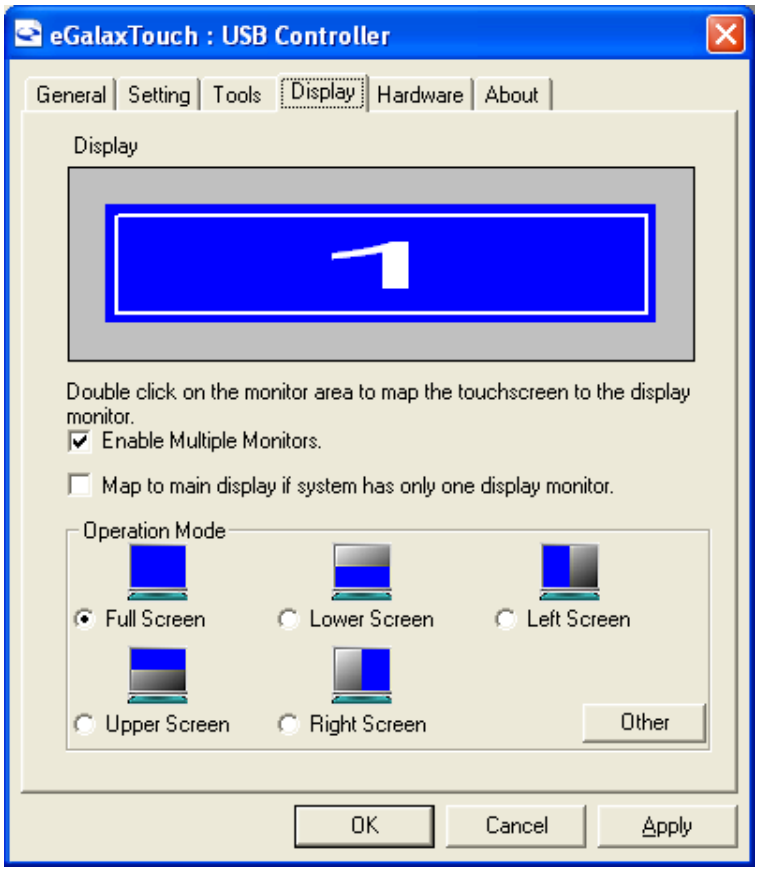
Do 9 points linearization for better touchscreen linearity.

Draw Test

Do draw test to verify the touch accuracy.

Display

In this window, it shows the mode of display.



Enable Multiple Monitors.

Map to main display if system has only one display monitor

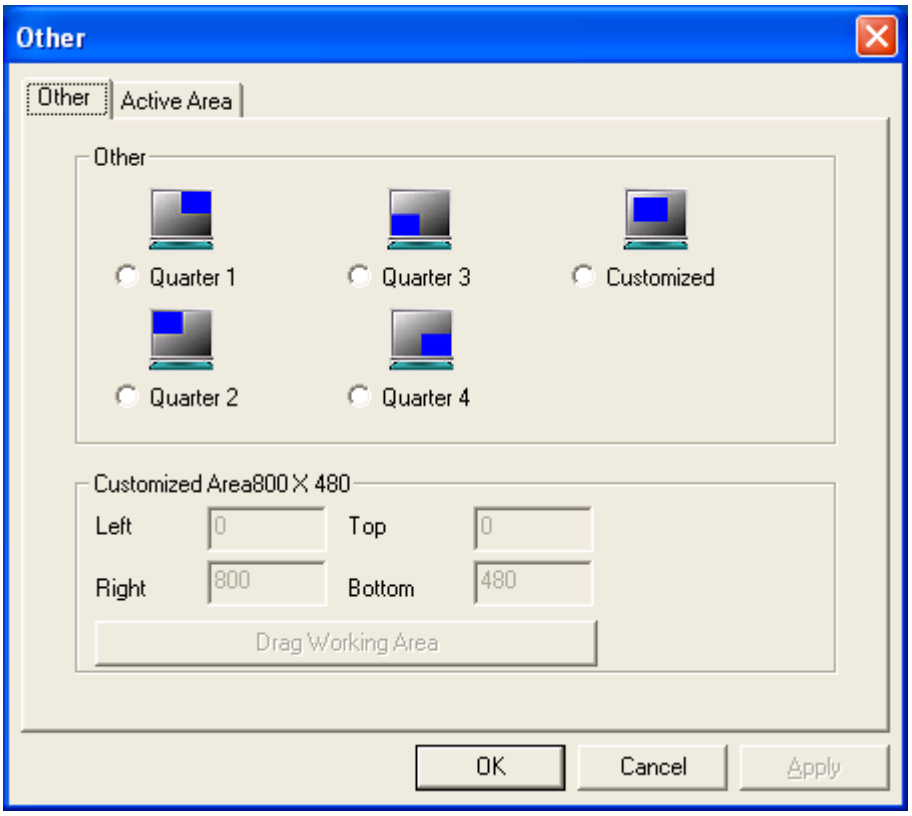
Full Screen

Lower Screen

Left Screen

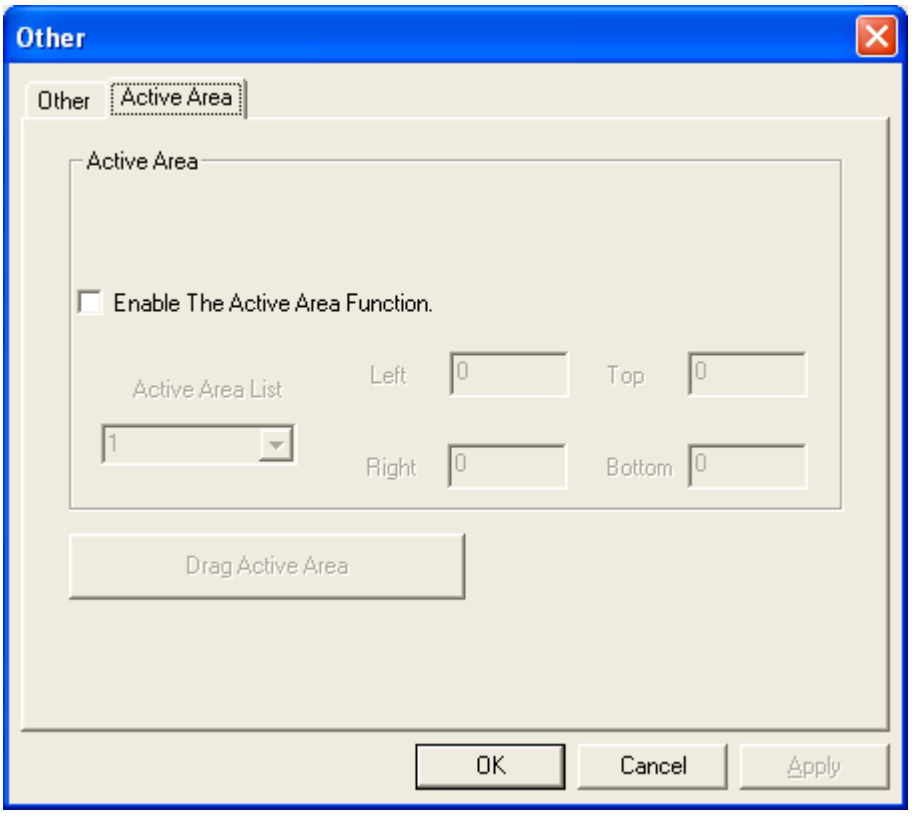
Upper Screen

Right Screen



Other

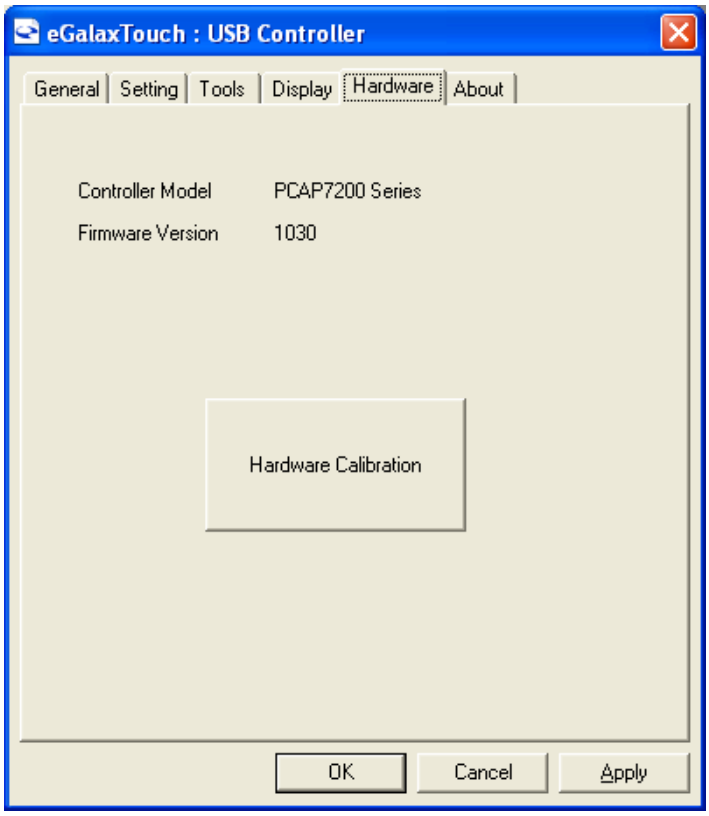
Other mode of display. Quarter1~4 and Customized area.



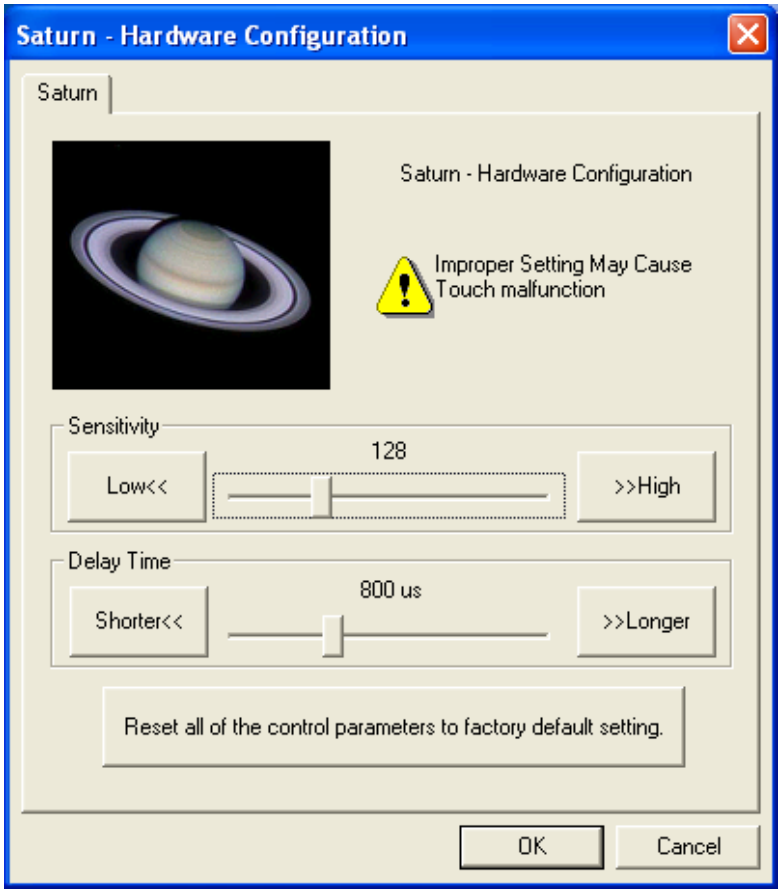
Active Area

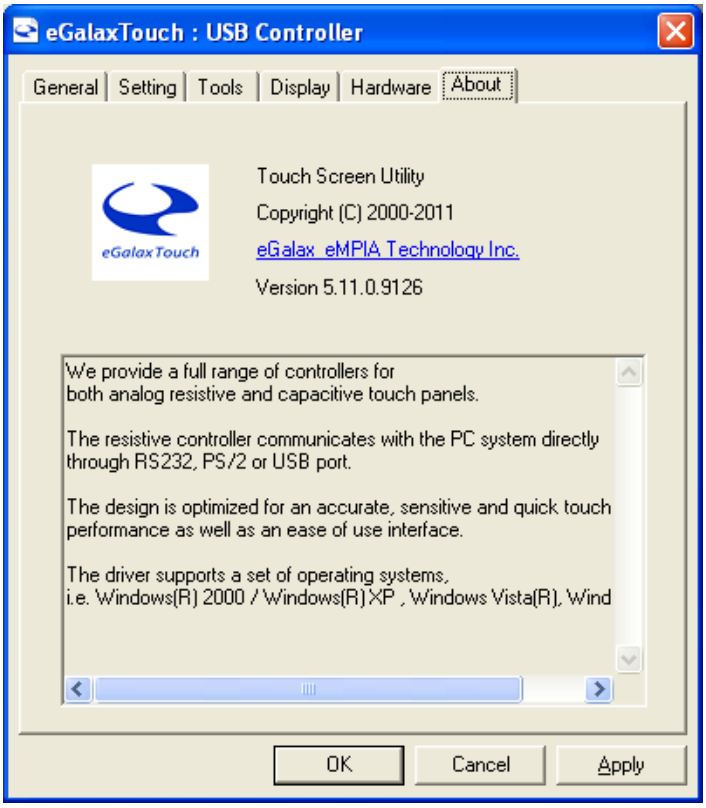
Drag active area to enable Active Area Function.

Hardware



Saturn Hardware Configuration



About

To display information about eGalaxTouch and its version.